

B) POWER UNIT AND LIGHT GUIDE

1. Do not autoclave liquid light guide.
2. The power unit shall be unplugged before cleaning and disinfecting the power unit to prevent from electric shock.
3. To wash or spray the outsurface of power unit 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.

Note:

1. Light guide shall be sheathed or wiped down with disinfecting procedure as it of power box.
2. The case of power box is made of Zinc plated steel with baked enamel and PC (Polycarbonate) plastic material. 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 a water wet cloth and dry thoroughly including crevices. Appropriate disinfectant information can be obtained from our authorized distributor.

14. LIABILITY

The manufacturer will consider himself responsible for the safety, reliability and performance of this product only if:

- Assembly operations, extensions, re-adjustments, modifications or repairs are carried out by persons authorized by Us.
- The electrical installation in the room complies with the requirements.
- The equipment is used in accordance with these instructions for use.

WARRANTY

The manufacturer hereby guarantees 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 conditions of use and service.

THE WARRANTY STATED HEREIN IS THE SOLE WARRANTY APPLICABLE TO "ADVANCE 3000" PRODUCTS. THE MANUFACTURER EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. THE MANUFACTURER'S LIABILITY WITH RESPECT TO ITS PRODUCTS IS EXPRESSLY LIMITED TO THE REMEDIES SET FORTH ABOVE. THESE REMEDIES ARE THE BUYER'S EXCLUSIVE REMEDIES. UNDER NO CIRCUMSTANCES SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

OPTIONAL ACCESSORIES

Protective glasses with frame
Clip-on protective glasses
Light meter #105
Light meter #200
OD8mm Straight optic probe
470 light guide

ADVANCE 3000

USER MANUAL



TECHNICAL DESCRIPTION

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NOTE:

- a) For the microprocessor needs very stable power source and although the built in circuit has this design to stabilize the power source. But possibly, large surge from line may make preset program scrambled. Dentist can turn off power switch on power box and turn on power switch again to reset built in program and unit will work normally again. Therefore, we suggest dentist to turn off the power, if the light cure unit will be idled for more than one hour.
- b) Follow manufacturer's directions for curing times on various materials. It is better to overcure rather than undercure. Overcuring cannot harm the restoration.
- c) If the lamp remains activated for an extended period, a safety thermostat will cut off power of power supply from overheating. There is a short beeping and "overheat" will be flashed at LCD display at that time as an alarm. Operation can be restored by simply allowing fan to run for 8 to 12 minutes. Normal usage may then be resumed.

11. LIGHT INTENSITY TEST

When lamp is on. Center optic probe on the detecting window at label on power box and the reading at LCD display is the curing source intensity shown in mw/cm^2 . At 100% intensity setting, normally the reading shall exceed $1,000 \text{mw}/\text{cm}^2$. If reading is lower than it, please check condition of optic probe face and light guide face to assure at these are not the cause of reduced light output. Lamp replacement may be required.

NOTE:

1. If curing source intensity is too weak that will not activate the light detector and LCD display will still show curing time elapsed.
2. All checks should be made with the same diameter light guide larger than 7 mm.
3. For lamp replacement, please contact our authorized dealer.

12. RECOMMENDED CURING TIMES:

ADVANCE 3000 can produce about four times light intensity blue light (at 100% intensity setting) than it of conventional halogen lamp. The curing time can be shortened to one-fourth time of conventional halogen lamp. Consult the material manufacturer's recommendations for curing time of the material you wish to cure.

NOTE: The above guide line is made from our testing but doctor needs to verify it by himself before using new material.

13. CLEANING/DISINFECTING/STERILIZATION

CAUTION

A) OPTIC PROBE:

1. Do not use any instrument abrasives on the ends of probe, loss of light emission may result.
2. Shall not be subjected to ultrasonic cleaning before autoclaving and shall not expose to disinfectant or chemical autoclaving solution which may result in discoloration. 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. Do not use 135°C cycles for using cassette sterilizes. Use the 121°C -rubber setting. The autoclave shall be operated at a temperature of 121°C (250°F) for 30 minutes and allow to cool for 20 minutes before handling.

9. ASSEMBLY/CONNECTION

The shipping box contains:

- | | |
|---|-----|
| <input type="checkbox"/> Power unit | 1pc |
| <input type="checkbox"/> OD8 mm curved opticprobe 60 degree | 1pc |
| <input type="checkbox"/> Protective eye shield | 1pc |
| <input type="checkbox"/> Liquid light guide | 1pc |

10. OPERATION

a) Light guide:

To insert light guide into light exit window until hearing the sound “click”. Pushing it firmly to assure it is fully seated. And plug the lamp switch to the socket below the light exit window.

b) Electric plug:

First see the electric information plate on the bottom of the power unit and then plug the power cord into an appropriate AC outlet.

c) Power unit:

Depress the power switch on the backside of the power box to energize the unit. The LCD display will show the set curing time etc.

d) Curing:

The light guide tip should be placed in close proximity to the material to be cured. Avoid actual contact. The flat end of the light guide should be parallel to the surface being treated.

e) Curing mode setting:

Depress the mode switch to select normal curing, ramp curing, 2 steps curing or bleaching. Activating the curing light

f) Select Time & intensity (at normal mode only):

Depress the time switch to select curing period for 1 sec. 3 sec. 6 sec or 10 seconds. Depress the intensity switch to select the intensity you want.

g) Bleaching (Whitening):

At this setting, a 3 seconds full power output can be activated by pulling hand switch. Please follow the direction of whitening material manufacturers.

h) Cyclic Bleaching (Whitening)

At this setting, a 3 seconds full power output and 1 second half power output can be activated by pulling hand switch. It will continuous 8 cycles and buzzer sound “beep” while the light intensity is switched from high to low or low to high.

i) Optic Probe

After sterilizing, insert the optic probe on the end of handpiece and be sure it slides fully on and held securely by the magnetic ring.

j) activate curing light

Pull the trigger switch on handpiece and release it. The timer in power box will turn off light when the cycle has elapsed. At any time during the cycle, the light can be turned off manually by pulling the trigger switch on handpiece again. Buzzer will beep at beginning and end of curing.

TECHNICAL DESCRIPTION

1. DESCRIPTION

The ADVANCE 3000 produces high intensity visible light range between 410 and 500nm for the polymerization of a variety of dental restorative materials and for tooth whitening.

It can cure all photo initiated dental restorative materials such as sealant, bonding agent and primers.

It cures most composite material but with 1/4 or less times needed for conventional halogen lamp.


This fast curing function can give you more extra chairside time to increase the revenue. Cyclic curing function makes it easy for teeth whitening.

2. SPECIFICATIONS AND EQUIPMENT CLASS

AC supply connection: 100 to 240 Volts AC.
50/60 HZ.


- a) Power input: Max. 300 watt
- b) Equipment class: Class II(IEC601-1)
- c) Protection against electric shock: Type BF(IEC601-1)
- d) Protection against entry of liquids: None
- e) Working environment: Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or nitrous oxide
- f) Operation: 5 curing time cycles of 1, 3, 6, 10 seconds and cyclic curing and 60, 80 and 100% intensity output indication.
- g) Fuses (2 per unit): T5AL250V (110VAC INPUT), T2.5AL250V (230VAC INPUT)
- h) Lamp: Xenon arc Lamp 180W, 12VDC
- i) Output wavelength range: 410-500nm (nanometers)
- j) Output light intensity: approximately 2000 mw/cm² (New shipment)
- k) Standard fiber-optic light guide: 8 mm light guide for general use
- l) Unit's overall dimensions: Height 16.5cm
Length 32.5cm
Width 25.0cm
Unit's weight: light-guide 220g, Control box 5.9kg
- m) Overheat: To indicate the power supply for lamp is cut off for thermal protection and will restore to work after cooling down.
- n) *Cyclic curing function.*

Additional symbols:

 Attention, consult accompanying documents

OFF

ON

 Alternating current

3. OPERATIONAL ENVIRONMENT

Ambient temperature: +10°C ~ +40°C

Relative humidity: 30% ~ 75%

Atmospheric pressure: 700hPa ~ 1060hPa

4. TRANSPORTATION AND STORAGE ENVIRONMENT

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

5. LAMP REPLACEMENT

- a) CAUTION: Before attempting to replace the lamp, turn the master power switch “OFF” on the backside of the power box and disconnect the curing light unit from the AC outlet (mains). Allow the lamp to cool completely!
- b) Open the protective cover of the bottom and take the lamp out.
- c) Replacement with a 180W, 12VDC Xenon arc Lamp. Use only an appropriate bulb, available from the distributor, to maintain proper function; an incorrect bulb type may cause the entire unit to break down. Be care of the polarity of lamp, while connecting. Do not touch the bulb itself, and avoid touching the inside of the reflector.
- d) Reassemble the case.

6. TROUBLESHOOTING GUIDE

PROBLEM	SERVICE PROCEDURE
1. Curing lamp is on, the fan does not operate.	Unit must be shut off immediately; contact the agent for repair.
2. Curing lamp does not switch on, the fan does not operate and no message is shown on the screen.	Check to make sure that the power switch, located on the control unit, is in “ON” position and the 5-seconds “activating” time has elapsed. Check the power cord connections, both at the unit and at the AC outlet (mains), to be sure they are properly seated. If not certain what has happened, contact the agent for repair.
3. Curing lamp does not switch on, but the fan is working and “overheat” lights up on the panel when the lamp switch is pressed.	Allow the lamp to cool for at least 5 minutes; if this does not help, check the lamp to be sure it is properly seated; if OK, then replace the lamp (see Section 5, LAMP REPLACEMENT). If not certain what has happened, contact the agent for repair.

REMARK: WE AND OUR AUTHORIZED DISTRIBUTORS WILL MAKE AVAILABLE, ON REQUEST, CIRCUIT DIAGRAMS, COMPONENT PARTS LISTS AND OTHER INFORMATION TO ASSIST THE USER’S APPROPRIATE TECHNICAL PERSONNEL TO REPAIR ANY LIGHT-CURING UNITS THAT ARE DESIGNATED BY US AS REPARABLE

INSTRUCTIONS FOR USE

7. SYMBOLS



TIME SET: Is used to select a cycle of 1, 3,6,10 seconds curing mode, by depressing the button. The selected cycle will be shown on the LCD display.



LIGHT INTENSITY: select a cycle of 50, 80,100% at normal mode.



MODE: Mode setting, there are normal mode (NM), ramp curing (RA), two steps curing (SC), bleaching (BL) and cyclic bleaching (BL 8) 5 settings.

NM (normal mode): Fixed power as preset intensity at preset duration.

RA (ramp curing): Start at half power gradually reaches to full power at end of 6s. duration.

SC (Step curing): 3 seconds half power followed by 3 seconds full power.

BL (Bleaching): 3 seconds full power.

BL 8(Cyclic bleaching): 3 seconds full and 1 second half power output, continuously cyclic bleaching 8 times.

OVERHEAT: Indicates the power supply for lamp is cut off for thermal protection and will restore to work after cooling down.

8. SAFETY PRECAUTIONS

- a) Before operation, you must read the user manual carefully.
- b) Refer to Section 13, CLEANING/DISINFECTION/STERILIZATION for sterilizing instructions.



CAUTION: in curing energy is possible compared with the equipment you have previously used. It is important to observe the following precautions and procedures:

Do not shine the light directly onto or toward unprotected gingival or skin.

Adjust your curing techniques in accordance with the increase in curing energy. Some examples are: decrease the curing time, increase the composite thickness, or increase the distance between the end of the light guide and the light-cured materials.

CAUTION: Do not look directly at the light emitted from this curing unit. Do not use this device without suitable protective eyewear for the operator, assistant and patient. Suitable protective eyewear blocks all energy below 550nm.

CAUTION: Persons with a history of photosensitivity or who are using photosensitizing drugs should not be exposed to light from this unit.

CAUTION: This equipment is not suitable for use in the presence of flammable anesthetic mixtures with air, nitrous oxide or environment full of flammable material.

CAUTION: This light-curing unit contains a Xenon arc Lamp lamp. Like all Xenon arc Lamps, the bulb can explode under rare circumstances. Do not operate this light-curing unit with the plastic front handpiece or filter assembly removed.

c) IMPORTANT: To prolong lamp life, allow the fan to complete its automatic cooling cycle. Please turn off unit only after the fan has switched itself off.

d) To protect this light guide, the light guide should always be placed in its holder after each curing procedure is completed.

e) To keep the operation safe, we suggest that you check your local AC power supply voltage before you use this product overseas. This curing unit produces high-output curing energy!

CAUTION: *The optic probe is fastened to liquid light guide by magnetic force. This design makes optic probe easy put on and take off for disinfection. But the dirt or aging of magnet may make optic probe easy fall off. Dentists need to check if the fastening of optic probe is proper or not before each curing process.*