CE

ADVANCE 500

USER MANUAL

TECHNICAL DESCRIPTION

INSTRUCTIONS FOR USE

CAUTION: US FEDERAL LAW RESTRICTS THIS DEVICE TO SALE BY OR ON THE ORDER OF DENTIST.

13. CLEANING/DISINFECTING/STERILIZING

……CAUTION……

1. 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.
2. 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. 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.

POWER UNIT AND CURING GUN

……CAUTION……

1. The power unit shall be unplugged before cleaning and disinfecting the power unit and curing gun to prevent from electric shock.
2. 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 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.

14. LIABILITY

We 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 Us.
- the electrical installation of the relevant room complies with the IEC requirements.
- the equipment is used in accordance with these instructions for use.

15. WARRANTY

We 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 OUR PRODUCTS. WE EXPRESSLY DISCLAIM ANY AND ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. OUR LIBILITY WITH PRESPECT TO ITS PRODUCTS IS EXPRESSLY LIMITED TO THE REMEDIES SET FORTH ABOVE. THE REMEDIES ARE THE BUYER'S EXCLUSIVE REMEDIES. WE SHALL UNDER NO CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

16. OPTIONAL ACCESSORIES

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

b). Remove the fiber optic light guide by pulling it out of the hand piece.

c). Unscrew the front cup out of the hand piece.
d). Remove the lamp by pulling it forward with a rocking up and down motion so the lamp slides out of the socket. Replace with a new lamp, 12 Volt, 75-Watt bulb. Do not touch the bulb itself, matching the prongs on the bulb with slots of the socket and avoid touching the inside of reflector.
e). Re-assembly the hand piece. Do not over-tighten.

6. TROUBLESHOOTING GUIDE

PROBLEM	SERVICE PROCEDURE
1. Curing lamp is on, fan is not operating.	1. Unit must be shut off immediately and contact agent for repair.
2. Curing lamp does not go on, fan is not operating. And no message is showed on screen.	2a. Check to make sure power switch located on control unit is in "ON" position and 5 second "activate" time has elapsed. 2b. Check power cord connections both at unit and at AC outlet (Mains) to be sure they are properly seated. 2c. If not sure what happen, contact agent for repair.
3. Curing lamp does not go on, but fan is working.	3a. Check overheat showing on screen or not, if yes, then await cooling, if no, then 3b. Check the lamp to be sure it is properly seated, if OK, then 3c. Replace the lamp (see Section 5, LAMP REPLACEMENT). 3d. If not sure what happen, contact agent for repair.
4."Overheat" is showed on screen while lamp switch is pressed.	4. Await lamp cooling at least 5 minutes.

REM: WE AND OUR AUTHORIZED DISTRIBUTOR WILL MAKE AVAILABLE ON REQUEST CIRCUIT, COMPONENT PART LISTS AND OTHER INFORMATION TO ASSIST USER'S APPROPRIATE TECHINCAL PERSONNEL TO REPAIR THE LIGHT CURE UNITS WHICH ARE DESIGNATED BY US AS REPAIRABLE

7. SYMBOL:

R: "ramp curing mode" in cycle of 20/40/60 seconds curing. Initial 10 seconds ramp cure from 300mw/cm^2. The balance period output is in excess of 1000mw/cm^2 (new shipment) if standard turbo probe used.

B: "boost curing mode" in cycle of 5/10 seconds curing. This is high output mode and output is in excess of 1000mw/cm^2 (new shipment) if standard turbo probe used.

C: "conventional curing mode" in cycle of 10/20/30/40/50/60 seconds curing. Output will be in excess of 700mw/cm^2 (new shipment) if standard turbo probe used.

BL: "bleaching mode" in cycle of 30 seconds curing. This is high output mode and output will be in excess of 1000mw/cm^2 (new shipment) if standard turbo probe used. For bleaching purpose, this mode shall be applied with suitable bleaching material and please follow the instruction of bleaching material manufacturers.

8. SAFETY PRECAUTIONS

a). Before operation, you have to read user manual carefully.
b). Refer to Section 11, CLEANING/DISINFECTING/STERILIZING for sterilizing instructions.
c). 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.

d). CAUTION: Do no 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.
e). CAUTION: Persons having a history of photosensitive reactions or who are using photosensitizing drugs should not be exposed to light from this unit.
f). CAUTION: Equipment not suitable for use in the presence of flammable anesthetic mixture with air or nitrous oxide.
g). CAUTION: This light curing unit contains a pressurized halogen lamp. Like all halogen lamps, under rare circumstances the bulb can explode. Do not operate this light curing unit with plastic front hand piece/filter assembly removed.
h). IMPORTANT: To prolong lamp life, allow the fan to complete its automatic cooling cycle. Once the fan has turned off, the unit may also be switched off.
i). To protect this light guide, after each curing procedure is completed, the handpiece should always be placed in its holder.
j). To keep the safety operation, we suggest that check your local AC power supply voltage before you buy this product oversea.

9. ASSEMBLY/CONNECTING

Box contains:

Power unit	1pc
Curing gun	1pc
Gun holder	1pc
#805 11mm light guide	1pc
Screw for holder	2pcs
Protection eye shield	1pc
8mm turbo optic probe	1pc

a). Handpiece: Position the handpiece in its holder..
b). Fiber optic light guide: Rotate the fiber optic light guides slightly while inserting it into the nose cone chuck and you will hear a clock sound when it is fully seated.

10. OPERATION

1. Optical probe: To insert into nose cone push and turn clockwise at the same time unit probe passes through locking spring inside of nose-cone.

2. Electrical plug: See electric information plate at bottom of power unit first and plug the power cord into appropriate AC outlet.

3. Power unit: Depress the power switch button at left side of power box to energize the unit. The LCD display will show curing time set.
4. 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.
5. Curing mode setting: Depress the “R”, “B”, “C”, and “BL” button at label on front part of power box to set the curing mode you want. Depressing same button again to choose curing time.
6. To activate curing light depress the trigger switch on curing gun 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 depressing the trigger switch of curing gun a second time. Buzzer will beep at beginning and end of curing.
7. Depressing the trigger switch will also activate the cooling fan. The fan will continue to run through curing cycle and remains for a period of time (maximum about 3 minutes) after the curing light is off. Under overheat condition if fan stops after 3 minutes run and thermostat can't be restored to the on condition. Depressing trigger switch again, the fan will start to run for cooling again.
8. The control circuit can detect the open circuit of lamp, which indicates thermostat cut off circuit due to overheat or bulb is burned down. The long beeping when depressing switch of curing gun is the signal of circuit is open. Thermostat can be restored after a period of cooling. That can be used to tell difference between thermostat cutoff and bulb burned down.

NOTE:

1. 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.
2. 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.
3. If the lamp remains activated for an extended period, a safety thermostat will cut off the lamp to protect curing gun from overheating. Operation can be restored by simply allowing fan to run for 3 to 4 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.

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 them 7 mm.
3. Double curing time does not double the curing depth. For example, while 20 seconds curing time may give a 3mm curing depth. This does not mean that 40 seconds exposure will give a 6 mm curing depth (rather about 4 mm depth).
4. The following interpretation of reading is made from our testing but doctor needs to verify it by himself before using new brand material.

12. INTERPRETATION OF READING

- 300 mw/ cm^2 or higher: For best results maintain output above 300 mw/ cm^2. This should provide sufficient energy for polymerization of materials up to 3mm depth, following the manufacturers recommended curing time. If the reading is higher than 600 mw/ cm^2, it may be shorten the curing time.
- 200~300 mw/ cm^2: if the output falls between 200~300 mw/ cm^2, increase the recommended curing time
- Below 200 mw/ cm^2: if the output fall bellows 200 mw/ cm^2, the curing light should not be used. Inspect the unit for deterioration at this time, lamp, filter, and light guide. If it still reads below 200 mw/ cm^2 after these adjustments, either send the unit back to the manufacturer for repair, or replace it with another unit.

TECHNICAL DESCRIPTION

1. DESCRIPTION

The ADVANCE 500 is a light curing unit intended for polymerization of light cured materials by dental professionals.

2. SPECIFICATIONS AND EQUIPMENT CLASS

a). AC supply connection: 120VAC±10% 50/60HZ
230VAC±10% 50/60HZ
100VAC±10% 50/60HZ
b). Power input: Max. 110w
c). Equipment class: Class II (IEC601-1)
d). Protection from electric shock: Type BF (IEC601-1)
e). Protection from ingress of liquids: None
f). Working environment: Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or nitrous oxide
g). Operation: 4 modes, max. 60s continuous curing and overheat indication.
h). Fuses (2 per unit): T1AL250V (230V AC TYPE)
T2AL250V (120V AC TYPE)
T2.5AL250V (100V AC TYPE)
i). Lamp: 12VAC, 75W/G5.3-4.8
j). Output wavelength range: 400-500nm(nanometers)
k). Output light intensity: 300-1300mw/cm^2 (depending on curing mode)
l). Standard fiber optic light guide: General use optic probe
8mm turbo optic probe
m). Unit overall dimensions: Height 20.0cm
Length 13.5cm
Width 12.5cm
n). Unit weight:
□Hand piece 380g
□control box 1.9kgs
o). Thermal safety: Hand piece incorporated thermostat as overheat protection
p). Additional symbols:
□Attention, consult, Accompanying, Documents □OFF ○

□Alternating Current  □ON

3. OPERATION ENVIRONMENT:

Ambient temperature: +10□ ~ +40□
Relative humidity: 30% ~ 75%
Atmospheric pressure: 700hPa ~ 1060hPa

4. TRANSPORTATION AND STORAGE ENVIRONMENT:

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

5. LAMP REPLACEMENT

a). CAUTION: Before attempting to replace the lamp turn the master power switch S1 “OFF” (O) behind power box and disconnect curing light unit from AC outlet (Mains). Allow the hand piece and lamp to cool completely! Replacement with a 12 Volt, 75-Watt halogen lamp. Use only appropriate bulb available from distributor to keep its function properly, incorrect bulb type may cause whole unit break down.