

OzoneDTA J-500 Plus

Dental OZONE GENERATOR USER'S MANUAL



CE
1639

-
- Read all instructions in this USER'S MANUAL before installation or operation.
 - Content listed in this application manual conforms to actual specification and utilization methods of products whereas our company reserves the right of making modification upon it.
 - This manual can be downloaded from the official website as follows:
http://www.apoza.com/products_detail.php?the_id=6Md6UmHIU1ZUaNdyckNc2YDj05gky7Ct

TABLE OF CONTENTS

1. APPLICATIONS	3
Properties of Ozone	
Biochemical Basis of Ozone Reactions	
2. SAFETAY INSTRUCTIONS and CONTRAINDICATIONS	4
Safety Instructions	
Contraindications	
Safety & Health Standards	
3. FEATURES	6
4. COMPONENT ILLUSTRATION and PANEL FIGURES	7
Component Illustration	
Control Panel	
5. INSTALLATION and OPERATION	10
Applicable Scope	
I. Department of Gingiva:	
❖ Gingival Pocket Treatment	
❖ Gingival Surgery Applications	
❖ Necrotizing Gingivitis Treatment	
❖ Pericoronitis Treatment	

II. Maintenance & Preventive Treatment:

- ❖ Dental Cavity Disinfections
- ❖ Root Canal Disinfections
- ❖ Tooth Root Disinfections
- ❖ Oral Candidiasis Treatment
- ❖ Herpetic Treatment
- ❖ Treatment of Aphtha
- ❖ Stomatitis Treatment
- ❖ CP & P Therapy

III. Jaw Surgery Applications:

- ❖ Pre-operative Extensive Oral Disinfections
- ❖ Post-operative Oral & Wound Disinfections
- ❖ Wound Inflammation Treatment
- ❖ Hemostasis of Oozing Hemorrhage
- ❖ Tooth Extraction Follow-up Treatment

6	APPLICABLE SCOPE	18
7.	MAINTENANCE	19
8.	TROUBLE SHOOTING	20
9.	SPECIFICATION and ACCESSORIES	21
10.	WARRANTY	22
11	Declaration for Electromagnetic Compatibility	23

NOTE

Use only the specified accessories.



: Type BF applied part.



: Refer to Manual before using the device



: To be recycled as WEEE Waste

1. APPLICATIONS

The main purpose of this unit is to produce pure ozone in focused area for medical treatment. Due to its unique effects, it can reach a concentration ranging from 10 to more than 100µg/ml required for the treatment area. The properties of pure ozone in sanitize fungi, viruses, and bacteria, make the unit into a novel and important therapeutic tool in dental treatment, with the hopes of resisting illnesses that are caused by bacteria, such as gingivitis. Moreover, ozone is a strong oxidizing agent currently used nowadays, and has a strong disinfecting power so that it can even disinfect tough bacteria, fungi, and viruses.

PROPERTIES OF OZONE

The German government stipulates that the maximum workplace concentration of ozone (i.e. MAK value) shall not exceed 0.2mg/m³ for a weekly inhalation of 42 hours and a daily inhalation of 8 hours. At just one tenth of the MAK value, the odor of ozone can be perceived. However, within a shorter inhalation period, a higher concentration of ozone is allowed. Once formed, ozone will quickly be absorbed into oxygen molecules. Studies have shown that low ozone concentration actually doesn't harm the human body but has a therapeutic effect.

Ozone is a poignant gas. If a high concentration of ozone is inhaled, this will cause injuries to the human body. The inhaled ozone will inflict injuries to the lungs, come into contact with the eyes, or irritate the mucous membrane.

BIOCHEMICAL BASIS OF OZONE REACTIONS

After observing the disinfection action of ozone water, it is found that oxidation is primarily the action on the constantly dripping water drainage. In other words, when microbes come into contact with a sufficient amount of ozone, this will produce disinfection effects. Through oxidation, the cell envelopes of microbes are decomposed, and then their DNA or RNA is also attacked, in order to kill bacteria or viruses; such observations have already been proposed by several scholars. If such observations have been applied in medical treatment, they are considered ozone action in focused area simply.

As for cellular healing, oxidation action will deactivate viruses, and discharged peroxides which produce synergism within the cells and kill the microbes that invade into cells. As a rule, inflammation will occur only when white blood cells no longer can kill bacteria, so that hydrogen peroxide (H₂O₂) is unable to be produced or a less than normal quantity of hydrogen peroxide is produced.

2. SAFETY INSTRUCTIONS and CONTRAINDICATIONS

Prior to use, it is imperative that the instruction manual and safety standards have been read thoroughly.

SAFETY INSTRUCTIONS

- 1》 The product must be operated in well-ventilated location.
- 2》 Disinfect root canal tip and air tip cover before and after each treatment.



CAUTION:

- **Do not plug the device at the socket not easy to reach.**
 - **Test vacuum function before treatments :**
 1. **Place the flat opening of handpiece on the sterilized medical glove.**
 2. **Select "AUTO" mode, and press "O3" button.**
 3. **The glove should be sucked up if the vacuum function works well.**
 4. **Follow installation and operation steps if it works well.**

If not, contact dealer for further service.
 - **Turn off the device before cleaning the device.**
 - **Make sure the device and accessory is dry before operation to prevent hazardous situation.**
-
- 3》 This equipment shall not be used in a moist environment.
 - 4》 The untrained operator shall not operate this equipment.
 - 5》 It is necessary for each treatment to conform to the safety standards specified for dental treatment.
 - 6》 It is necessary to be familiar with indications and contraindications of ozone therapy.
 - 7》 No foreign object shall be plugged into the opening of the ozone generating handpiece.
 - 8》 Air Tip Cover needs to be installing to the handpiece.
 - 9》 Do not blow ozone toward eyes directly.

SAFETY NOTES

For the following conditions, the unit should not be used or can only be used under specific conditions:

- 1》 Patients using cardiac stimulators (pacemakers).
- 2》 Epileptic patients or patients suffering from other serious neurological illnesses.
- 3》 Patients suffering from psychological problems.
- 4》 Mucous membrane parts of infants (under one year old).
- 5》 Patients suffering from serious asthma.
- 6》 Pregnant women.

This therapy will not have any negative effects on the illnesses specified in the above-mentioned contraindication # 2, 3, 5, and 6. These are considered contraindications merely because these may cause patients uncontrollable secondary mechanical reactions.

To those patients suffering from contraindication # 1, it is only possible to apply a light electric current for the therapy because this electric current will not cause any interference to a normally functioning cardiac stimulator.

Patient with above condition 4 and 6 can't apply more than 120 seconds.

Moreover, dentists shall decide whether those suffering from the above-mentioned contraindications should receive therapy.

SAFETY and HEALTH STANDARDS

- 1》 Ozone is applied for therapy on focused area only. Its concentration is required to be within acceptable medical range.
- 2》 OzoneDTA J500 is less than the MAK volume at $0.2\text{mg}/\text{m}^3$, even the volume generated in the oral cavity. Inhalation in a very short time will not be hazardous on the respiratory tract. However, it is necessary to avoid an extended direct inhalation of ozone within the treatment range.
- 3》 The therapy room should be well ventilated because ozone may stimulate the respiratory tract and mucous membrane for allergic patients. The glass probe should be prevented from directly coming into contact with emulsion gloves, because some products have poor tolerance toward ozone, which may thus damage the emulsion layer of the gloves.
- 4》 Test vacuum function before treatments :
 1. Place the flat opening of handpiece on the sterilized medical glove.
 2. Select "AUTO" mode, and press "O3" button.
 3. The glove should be sucked up if the vacuum function works well.
 4. Follow installation and operation steps if it works well.If not, contact dealer for further service.

- 5》 Clean the device with soft and dry cloth to clean the device. Do not dip the device or handpiece in any liquids, or let any liquids contact with the device.
- 6》 All Tips or silicon Tip Cover required to be disinfected after operation.
- 7》 Only original accessories made by Apoza should be used with the device, including control box, handpiece and all other components. Otherwise, it will cause warranty invalid.

3. FEATURES

Ozone Therapy

- 1》 Free of side effect due to no antibiotic or medicine required.
- 2》 With Endo tip can reach deep into root canal, disinfect thoroughly.
- 3》 Ozone has good performance in disinfection, eliminates bacteria, and helps wound healing.
- 4》 High concentration but low volume ozone provides good efficiency.
- 5》 Disinfection effect of ozone lasts long.

Ozone disinfectant (with accessory box)

- “Class-B-like” Pre-vacuum function to disinfect porous instruments.
- “Multiple boxes” can be applied to a single device one after another.
- Disinfect under room temperature, and even non-autoclavable objects can be disinfected.
- Disinfection box is sealed after disinfection and ensure to be thoroughly disinfected space.

4. COMPONENT ILLUSTRATION and PANEL FIGURES

Description of Parts



A : Main Unit



B : Handpiece



C : Foot Pedal (202043)



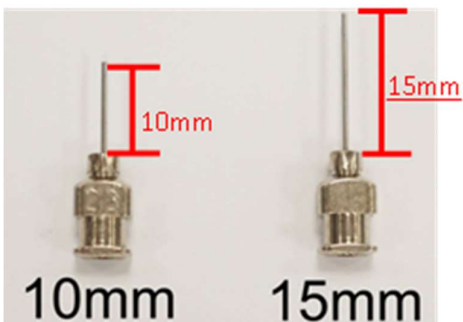
D : Cable Line (104048)



E : Air Tip (202245) x 2 pcs



F: air tip cover without holes(101492),air tip cover with holes



G : Root canal tip (10mm : 102867 x 2pcs - 15mm : 102868 x 2pcs)



H : Disinfection Accessory Box (101278)



I : Disinfection box



J : Disinfection tube for disinfection box

Optional accessory :



K : Complete Set of Water Bottle



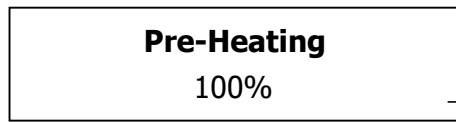
L : Water bottle



M : Bottle Lid with Air Stone

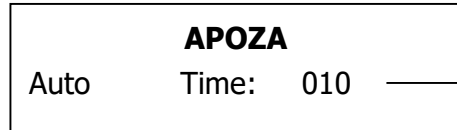
Control Screen

OzoneDTA J500 Plus:



→ Boot Up (Start after shows 100%)

Boot Up (Preheat)



→ Time Setting (10 ~ 600 seconds)

Ozone Therapy Mode



→ Disinfection box Mode for Tools (OFF)

Disinfection box Mode for Tools (OFF)



→ Start to pump air into box for 60 seconds

Ozone Reduction Mode : Air Pump on



→ Start to pump Ozone into box for 90 seconds

Disinfection box Mode for Tools : Ozone Pump On



: Increase Seconds : 10 、 20 、 30 、 60 、 90 、 120 、 150 、 180 、 240 、 300 、 360 、 420 、 480 、 540 、 600 (Circulates).



: Decrease Seconds : 600 、 540 、 480 、 420 、 360 、 300 、 240 、 180 、 150 、 120 、 90 、 60 、 30 、 20 、 10 (Circulates).



: Ozone Therapy Mode



: Ozone Reduction Mode



: Disinfection box Mode for Tools

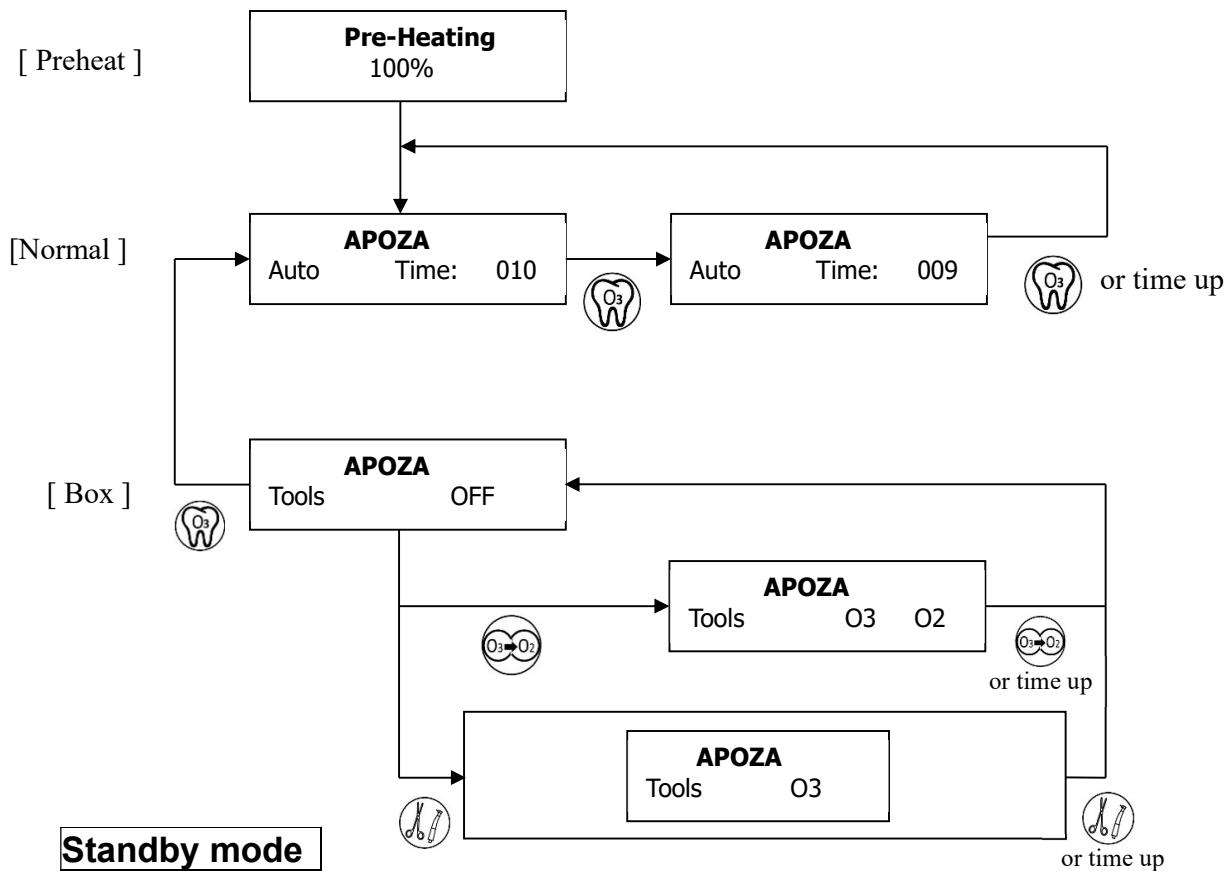
5. INSTALLATION and OPERATION

CAUTION:

- Before cleaning the device, make sure the power is off.
- After cleaning the device, make sure the device is dry before operation, to prevent hazard occurs to the device or user.
- Use suction tip in advance and during operation to maintain oral dryness, and avoid saliva and/or blood such into device.

Operational Process

- Test vacuum function before treatments :
 1. Place the flat opening of handpiece on the sterilized medical glove.
 2. Select "AUTO" mode, and press "O3" button.
 3. The glove should be sucked up if the vacuum function works well.
 4. Follow installation and operation steps if it works well.If not, contact dealer for further service.



Standby mode

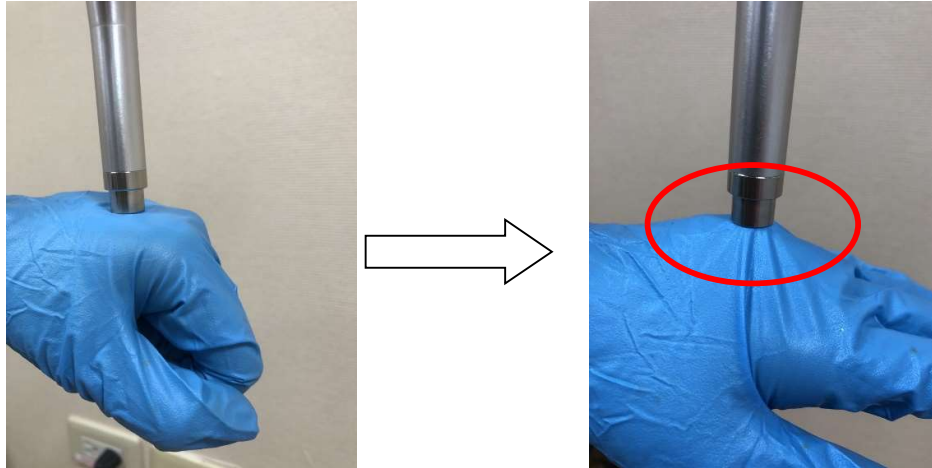
10 minutes idle :

Sleep! Any Key

Air Tip set up

- **Test vacuum function before treatments :**
 1. Place the flat opening of handpiece on the sterilized medical glove.
 2. Select "AUTO" mode, and press "O3" button.
 3. The glove should be sucked up if the vacuum function works well.
 4. Follow installation and operation steps if it works well.

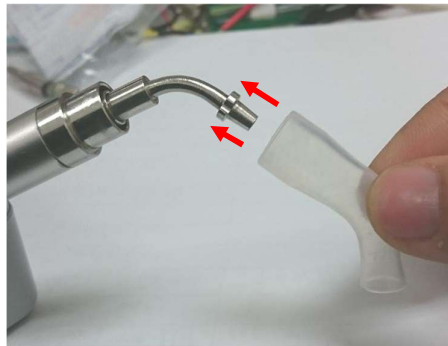
If not, contact dealer for further service.



Air tip cover with holes : applicable for dental treatments, except for root canal and pocket.



Step1. Insert tip onto handpiece.



Step2. Connect "Tip-Cover with holes".



Step3. Tip Cover fasten on handpiece.



Step4. Press the tip again, make sure the tip well connected.

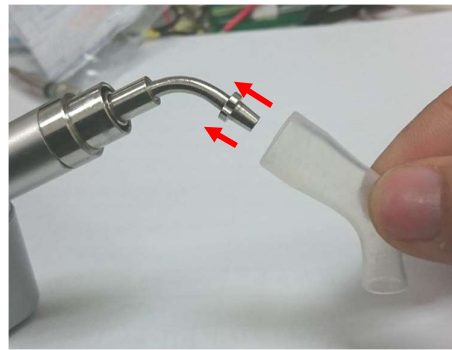
Root Canal tip set up

* Air Tip Cover (without holes) : applicable for root canal and pocket treatments

* Tips: long and short for selection subject to length of root canal and pocket.



Step1. Insert Air Tip to handpiece.



Step2. Connect "Tip-Cover without holes".



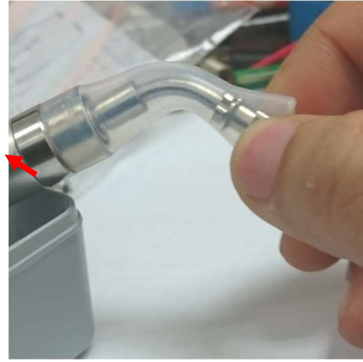
Step3. Tip Cover fasten on handpiece.



Step4. Press the tip again, make sure the tip well connected.



Step4. Insert root canal tip onto air tip.



Step5. Spin and press inward.



Step6. Set up complete.

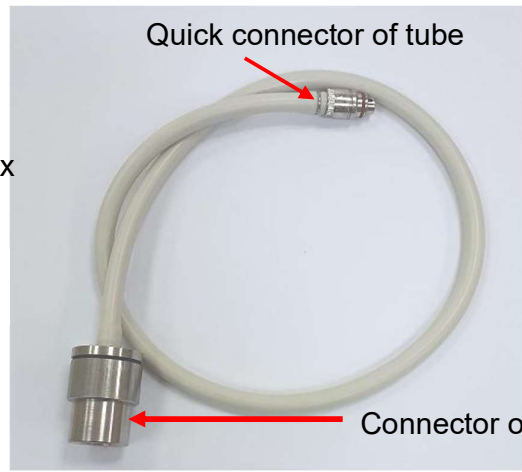
Disinfection box set up



Connector of box

Cramp ring

Disinfection box



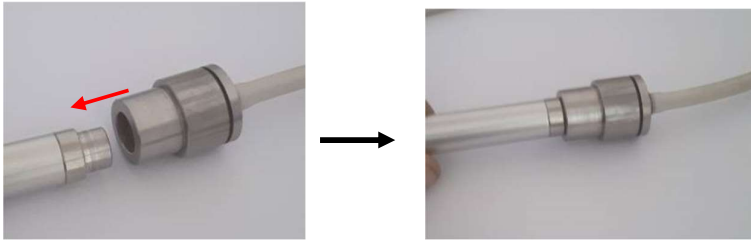
Quick connector of tube

Connector of tube

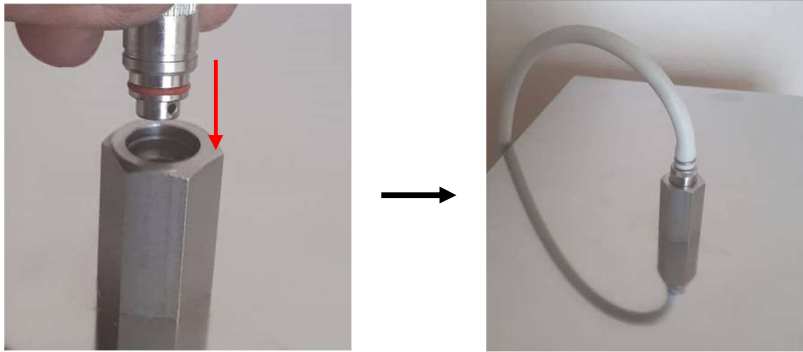
Disinfecting tube for disinfection box



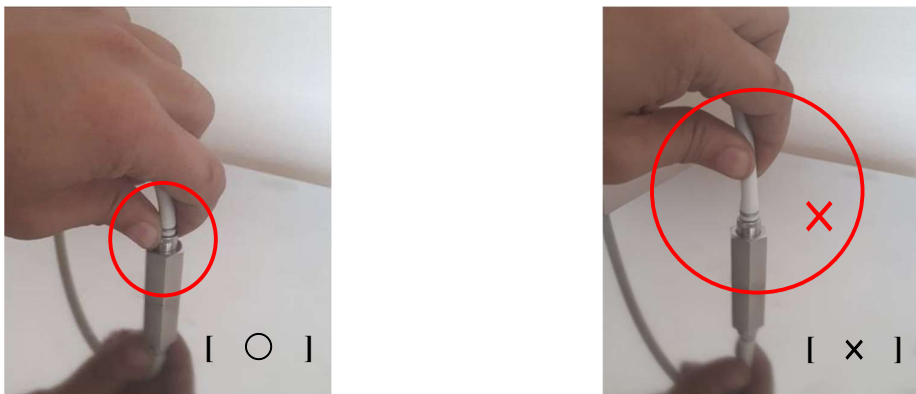
Step1. Seal the box by locking 4 cramp rings completely



Step2. Connect the handpiece with connector of tube.



Step3. Please hold the quick connector. Connect properly the quick joint onto the connector on the disinfection box.



Step4.

After Ozone injection process finished, please hold the quick connector and pull it out. Then disinfection box can be moved to any other locations.

Operation

- 1》 Lock handpiece tube and connect foot controller to the device.
- 2》 Clean and disinfect the tips, tip covers and make sure all the device and accessories are dry to proceed next step.
- 3》 Before connect the power cord, make sure the handpiece tube has been connected to device.
- 4》 Turn on the power.
- 5》 Boot Up (Preheat) will proceed till 100%.

- 6》 **Test vacuum function before treatments :**
1. Place the flat opening of handpiece on the sterilized medical glove.
 2. Select "AUTO" mode, and press "O3" button.
 3. The glove should be sucked up if the vacuum function works well.
 4. Follow installation and operation steps if it works well.

If not, contact dealer for further service.


7》 Install the tips and tip covers as previous page shows.

8》 Automatic use:


For Ozone Therapy Mode:


a. Press ☰ or ☑ to set the timing.

b. Contact the air tip cover with the tissue or lesion directly.

c. Press  to start or step on foot controller.

d. Count down start.

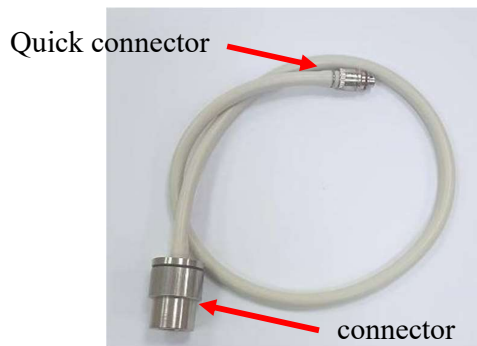
e. To stop, press  again, or wait until the time up, the device will stop automatically.

9》 The foot controller has the same function as  (start).

10》 To clean and disinfect the tip covers and air tips after ozone therapy.

11》 To clean the device and the other accessories after turn off the power



J-500 Plus: disinfection box mode For Tools





Tube for disinfection box

NOTES BEFORE OPERATION:

1. **Rubber or any part with rubber is prohibited.**
2. **Latex or any part with latex is prohibited ◦**
3. **This product is not suitable for instruments packed in pouch or wrapped with cloth.**
4. **It is prohibited to place any liquid into the chamber of the product.**
5. **Wipe water off surface of bound-to-be-disinfected items, prevent items from covering or overlapping, and keep space amid each one for better ozone gas penetration.**

- 1》 Lock handpiece tube and connect foot controller to the device.
- 2》 Before connect the power cord, make sure the handpiece tube has been connected to device.
- 3》 Connect "Connect-point" to connector and make sure well connected.
- 4》 Plug Disinfector Tube into Disinfection box.
- 5》 Press  to start vacuum and then pump Ozone into box for 90 seconds.
- 6》 Wait the device will stop or press  again to stop vacuum.
- 7》
- 8》 Pull off the tube from the disinfection box after disinfector process.
- 9》 Remain items in the box for 60~90 minutes to get a better disinfection effect.





(Ozone Reduction Mode) To take disinfected items out from the box:

- 1》 Connect the handpiece with connector of tube.
- 2》 Plug the quick connector into disinfection box.
- 3》 Press  to pump air into disinfection box for 60 seconds.
- 4》 To stop, press  again, or wait until the time up, the device will stop automatically.
- 5》 Pull the quick connector out of disinfection box.
- 6》 Open the box and then take out tools.

Water Bottle (optional)

- 1》 Connect properly handpiece and foot pedal onto the unit.
 - 2》 Connect the unit with electric power cable.
 - 3》 Fill the bottle with 800 c.c. water, and fix properly the bottle lid with air stone inside.
- * Be aware of water not exceeding 800c.c. to prevent unit damage seriously.
- 4》 Connect the handpiece with the connector on the bottle lid.



- 5》 Press  or  to set timing, at least 180 seconds.
- 6》 Press  or step foot pedal to start operation.
- 7》 Count down on the display.
- 8》 If needed, press  once again to terminate program. Or it stops automatically when pre-set timing ends up.

9》 Remove the bottle lid with air stone.



10》 Cover with the bottle lid without connector.



6. APPLICABLE SCOPE

INDICATIONS FORM

The applications of this form are excerpted from **APPLICABLE SCOPE** on the Instruction Manual. The time setting, intensity settings, and the frequency of repeating the treatment can provide average empirical values for your reference. However, the setting may change according to the size of the area of the focus, pH value, and the severity of illnesses. Moreover, dentists should decide the intensity used for individual therapy.

Diagnosis	Time (second)	Frequency of Treatment
Gingival Pocket Therapy	60-120sec.	Once to twice per week, every three days
Gingival Treatment	60-120 sec.	Once to twice per week every three days
Gingival Surgery Applications	60 sec.	Once per week every three days
Necrotizing Gingivitis Treatment	120 sec.	Once per week every three days
Pericoronitis Treatment	60-180 sec.	Twice per week
Dental Cavity Disinfections & Dental Cavity Hemorrhage Treatment	90-180 sec. 300 sec.	Once Twice
Root Canal Disinfections	30-60 sec.	Once
Tooth Root Disinfection	30 sec.	Once
Oral Candidiasis Treatment	120 sec.	Twice per week
Herpetic Treatment	120 sec.	Twice per week
Treatment of Aphtha	30-60 sec.	Twice per week
Stomatitis Treatment	60 sec.	Twice
Dental Caries Treatment (CP, P)	30-60 sec.	Once
Pre-operative Extensive Oral Disinfections	600 sec.	Once
Post-operative Oral & Wound Disinfections	180-600 sec.	Once

Wound Inflammation Treatment	60 sec.	Twice per week
Homeostasis of Oozing Hemorrhage	60-300 sec.	Once
Tooth Extraction Follow-up Treatment	60-120 sec.	Twice

7. MAINTENANCE



CAUTION:

- **Before cleaning the device, make sure the power is off.**
- **After cleaning the device, make sure the device is dry before operation, to prevent hazard occurs to the device or user.**

- 1》 The unit should be cleaned every time after use. Probes should be wiped by soft cloth with surgical ethyl alcohol or disinfected after and before each operation. Never soak the device, handpiece into any surgical liquid for cleaning.
- 2》 Only original accessories made by Apoza should be used with the device, including control box, handpiece and all other components. Otherwise, it will cause warranty invalid.
- 3》 All Tips or silicon Tip Cover required to be disinfected after operation.
- 4》 **For any defect found, don't disassemble and don't use the unit** because this may cause injury to the patients when the equipment does not conform to the required safety regulations and this would cause warranty invalid.
- 5》 If the unit could be reasonably, properly used, stored and all necessary maintenance could be taken, it could be used safely for five years from date of manufacturer. The lifespan would be affected if the device is used with any component or accessory which is not made by the original manufacturer.
- 6》 Condition for Storage and Transportation
Temperature : -10°C ~ +50°C
Humidity : 10% ~ 100%, Atmospheric pressure : 700 ~ 1060 hPa
- 7》 Environmental Conditions :
Temperature : +15°C ~ +40°C
Humidity: 10% to 80%

8. TROUBLE SHOOTING

Users could simply check over the device with the following chart. For any other unlisted fault, please contact the dealer immediately for further check. Any self-repairing might raise worse condition and sever damage or injury.

FAULT	POSSIBLE CAUSE	SOLUTION
Display is not working.	<ul style="list-style-type: none"> A. Electric power is not connected properly. B. Fuse on power switch gets damaged. 	<ul style="list-style-type: none"> A. Re-connect properly the electric power and re-start. B. Replace the fuses.
No Ozone Pump out.	<ul style="list-style-type: none"> A. Tip Gasket worn. B. Clogging of handpiece tube. C. Handpiece tube worn. D. Interior parts worn. 	<ul style="list-style-type: none"> A. Replace Tip Gasket. B. Disassemble the handpiece tube, blow the tube with air-pressure gun till the clogging resolved. C. Replace handpiece tube. D. Contact distributor for replacement.
Ozone can be smelled beside the device.	<ul style="list-style-type: none"> A. Tip cover not installed well ° B. Handpiece tube worn. ° C. Interior parts worn. 	<ul style="list-style-type: none"> A. Adjust the tip cover well. B. Replace handpiece tube. C. Contact distributor for replacement.
PUMP not functioning.	PUMP worn.	Contact distributor for replacement.
LCD Screen shows E 1 E 2	<ul style="list-style-type: none"> A. Surrounding temperature is over low. B. Temperature sensor's error C. Ozone Reduction element's error. D. Fuse on main PCB gets damaged. 	<ul style="list-style-type: none"> A. Re-switch on the unit to warm up. B. Contact distributor for replacement. C. Contact distributor for replacement. D. Replace the fuses
E 3	Not totally vacuum	<ul style="list-style-type: none"> A. Make sure the disinfection box is well closed/locked. B. Check if the seal of metal cover gets deformed, or the transparent tube on the cramp rings gets lost.
weird noise or abnormal sound during operation	vacuum pump malfunction	Contact distributor for replacement.

9. SPECIFICATION and ACCESSORIES

SPECIFICATION

Main Unit

Input	:	AC230V & AC110V, 50/60Hz
Rated Power	:	AC230V (360W) & AC110V (390W)
Fuse (250V)	:	Main PCB: F1 : AC250V / F4A x1pc F2 : AC250V / F2.5A x1pc F3 : AC250V / F1.5A x1pc
Fuse (110V)	:	Main PCB: F1 : AC250V / F4A x1pc F2 : AC250V / F2.5A x1pc F3 : AC250V / F3.15A x1pc
Dimension	:	(W) 15 x (D) 32 x (H) 24.4 (cm)
Weight	:	4.9Kg
Disinfection box (12 liter)	:	(W) 23cm x (D) 34 x (H) 23 (cm)
Disinfection box weight	:	3Kg

STANDARD ACCESSORIES

Main Unit	x 1pc
Handpiece (202238)	x 1pc
Foot Pedal (202043)	x 1pc
Cable line (104048)	x 1pc
Air tip cover without holes (101492)	x 1pc
Air tip cover with holes (101492)	x 1pc
Root canal tip10mm (102867)	x 2pcs
Root canal tip15mm (102868)	x 2pcs
Disinfection Accessory Box (101278)	x 1pc
Tube for disinfection box (202258)	x 1pc
Disinfection box	x 1pc

OPTIONAL ACCESSORIES

Complete Set of Water Bottle	x 1pc
Water bottle (without connector)	x 1pc
Bottle lid with air stone	x 1pc

10. WARRANTY

1》 This product has been fully inspected and conformed to current product specification. It is warranted for its designated usage, against original defects in materials and workmanship for period of 12 months from **shipment date** from APOZA's end. Charges applied to following conditions :

- a. Incorrect or improper operation caused by not following the User Manual instructions.
- b. Disassemble, repair or modify the accessories without approval.
- c. Damage caused by consumption parts, accessories or natural disasters.

We will charge partly cost or inspection fee after the warranty period. Please refer to warranty statement for more details.

2》 Special Condition :

The following conditions are **not included** in Apoza warranty:

- a. The damage was caused by user's mistake. (e.g. unsuited power voltage, overheat location of the unit, fallen down by accident ,pressed by hard force or other unusual situations.)
- b. "Apoza specification" or parts had been replaced, disassembled, disposition of the goods or serious damage of shell.
- c. The damage was caused by accidents such as fire, explosion, flood, war riots, earthquake or other irresistible situations.
- d. Damage during transportation.

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Netherlands

SRN: NL-AR-000002750

TEL : 31 6 2025 4033

11. Declaration for Electromagnetic Compatibility

Note:

1. This product needs special precautions regarding electromagnetic compatibility and needs to be installed and put into service according to the note "electromagnetic compatibility."
2. Certain types of mobile telecommunication equipment could potentially interfere with this product. The separation distances recommended in the note "electromagnetic compatibility" must be taken into account.

Warning:

1. This product should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the equipment should be observed to verify normal operation in the configuration in which it will be used.
2. The use of accessories and cables other than those specified or sold by manufacturer as replacement parts may result in increased emissions or decreased immunity of this product.


Table 1

Guidance and manufacturer's declaration . electromagnetic emissions		
The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 2	The product must emit electromagnetic energy in order to perform its intended function. Nearby electronic equipment may be affected.
RF emissions CISPR 11	Class A	The product must be used only in a shielded location with a minimum RF shielding effectiveness and, for each cable that exits the shielded location, a minimum RF filter attenuation of 80 dB from 10 MHz to 20 MHz, 100 dB from 20 MHz to 80 MHz and 80 dB from 80 MHz to 100 MHz. (The minimum at 20 MHz is 100 dB and the minimum at 80 MHz is 80 dB.)
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	The product when installed in such a shielded location, is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

Table 2

Guidance and manufacturer's declaration - electromagnetic immunity			
The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment.			
IMMUNITY test	IEC 60601	test level	Compliance level
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 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	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	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 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 s	<5 % UT (>95 % dip in UT) for 0,5 cycle 40 % UT (60 % dip in UT) for 5 cycles 70 % UT (30 % dip in UT) for 25 cycles <5 % UT (>95 % dip in UT) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Model 004 image intensifier requires continued operation during power mains interruptions, it is recommended that the product be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	If image distortion occurs, it may be necessary to position the image intensifier further from sources of power frequency magnetic fields or to install magnetic shielding. The power frequency magnetic field should be measured in the intended installation location to assure that it is sufficiently low.
NOTE UT is the a.c. mains voltage prior to application of the test level.			

Table 3

Guidance and manufacturer's declaration - electromagnetic immunity			
The product is intended for use in the electromagnetic environment specified below. The customer or the user of the product should assure that it is used in such an environment.			
IMMUNITY test	IEC 60601 TEST LEVEL	Compliance level	Electromagnetic environment . guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz~80 MHz	3 Vrms	<p>Portable and mobile RF communications equipment should be used no closer to any part of the product, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz~2.5 GHz	3 V/m	$d = 1.2\sqrt{P} \quad 80 \text{ MHz} \sim 800 \text{ MHz}$ $d = 2.3\sqrt{P} \quad 800 \text{ MHz} \sim 2.5 \text{ GHz}$ <p>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).</p> <p>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</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol :</p> 
NOTE 1 At 80 MHz and 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.			
<p>^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 product is used exceeds the applicable RF compliance level above, the Model 006 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the product.</p>			
<p>^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</p>			

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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 **shipment date** from APOZA's end. Repairs necessitated by misuse or disassembling of the equipment, or by the parts not provided by the manufacturer, are not covered by this warranty.

The following parts are not included in warranty:

- 1) Curing Light : Light guide
- 2) Autoclave : Filter
- 3) J-500/J-500 plus unit : Air tip, Air tip cover, Root canal tip
- 4) BT Cool plus : Distance guide with supporter, Goggles(orange)

* Following parts warranty for 3 months: probes of ozone generator, lithium battery *

ITEM NAME _____
SERIAL NO. _____ INSPECTOR _____
POWER _____ VOLTAGE _____

(TEAR OFF HERE)

RETURN INFORMATION CARD

ITEM NAME _____
SERIAL NO. _____ DATE PURCHASED _____
POWER _____ VOLTAGE _____
CUSTOMER NAME _____
ADDRESS _____

Please fill in this "Return Information Card" to the sales representative for user's record and future service.