CLEANING PREPARATION OF STAINLESS STEEL RESERVOIR BEFORE THE SANITIZATION PROCESS

The stainless steel reservoir is a 3 quart can that will require cleaning before the sanitization process can begin. The best way to remove any mineral deposits or scale is to use a green scotch brite pad. When cleaning multiple water coolers a device from an auto parts store known as a piston honer (Napa Part #2833) can be modified and inserted in a 1/4" drill to thoroughly clean the stainless steel reservoir. To use this device simply cut off the 3 stones from the jaws and insert 3 green scotch brite pads that can be held in place with wire ties. Spray a little water or alcohol in the stainless steel reservoir for lubrication purposes and the cleaning process is completed within seconds. Use water and paper towels to wipe clean.

The sanitization process can now begin.

PLASTIC CABINET CLEANING INSTRUCTIONS

Materials Required:

- **Green Pads (Scotch Brite)**
- **Cleaning Solution in Spray Bottle (See Recommendations)**
- **Hot Water**

1. **Starting with a dry as possible surface, spray the cleaning solution on dirty areas (for best results, let stand for 1-2 minutes).**

2. **With a green pad, wipe the surface of the cooler. The cleaner should lift the dirt from the surface and provide a rather effortless process. Remember that polypropylene is impervious to solvents, so stains and grime will not penetrate the surface. Also, calcium from prolonged water contact will require a descaler (citric acid or Lime Away) since solvents will not effectively lift the deposits.**

3. **Using hot water, rinse away the dirt and cleaning solution. Additional scrubbing may be required for heavy stains.**

4. **Dry the cabinet and package as soon as possible so airborne particles do not recontaminate the cleaned surfaces. Packaging should include bagging as well as a box to ensure the highest quality product as possible for your customer.**

Cleaning Solution Recommendations:

- **ZEP Formula 50, Product #0859**
- **All Clean Spray and Wipe #250, GENLABS (909) 591-8451**
- **Super Clean #260, GENLABS (909) 591-8451**

For best results, mix in a spray bottle using two parts water with one part cleaner. Rubber gloves and protective goggles must be used.

The customer should use "Simple Green" as directed on the bottle for satisfactory results.

YOUR INDISPENSABLE DISPENSER

Bottled Water: Safe, Clean Refreshment

With just minimal care, your home water dispenser will provide years of safe, trouble-free refreshment. Here are specific procedures recommended by the International Bottled Water Association (IBWA) to assure your bottled water dispenser always remains clean and it's water delicious.

In developing these procedures, the IBWA has conducted studies (administered by Yale University's School of Medicine) evaluating the safety of water dispensers and how to protect them. These tests confirm a simple program of regular cleaning and maintenance safeguards dispensers as a convenient way to enjoy bottled water any time.

How to Clean Your Dispenser

Your bottled water dispenser is virtually maintenance free - always ready to provide clean, refreshing bottled water at the press of a button. To be sure it stays in proper working order, however, you should spend a few minutes on basic care *every two to three months***.**

When it's time to replace water bottles:

1. **Unplug cooler. Remove empty water bottle.**
2. **Drain all water still in the reservoir through the cold water faucet.**
3. **Fill the dispenser reservoir with clean tap water (about one gallon). Dissolve** *one teaspoon* **of household bleach in one cap of tap water. Add this mixture to the tap water already in the reservoir. (There should never be more than one teaspoon of bleach per gallon of tap water.)**
4. **Using a clean brush, scrub the inside of the reservoir. Let stand for five minutes.**
5. **Drain this water through the** *cold* **water faucet ONLY. Wipe the reservoir dry.**
6. **Rinse reservoir by filling with clean tap water. Drain through the cold water faucet.**
7. **If your cooler has two faucets, refill the reservoir with clean tap water. Drain through the second faucet.**
8. **Place a new bottle on your dispenser. Plug in the unit and enjoy!**

Cleaning Your Drip Tray

Your dispenser's drip tray is not a drain, but a basin to catch occasional spills. It should be emptied and cleaned at least *once a month***. To do this remove drip tray from dispenser, clean it with mild soap and water, then rinse and replace.**

Replace Your Water Bottles Properly

Always wipe a new bottle's neck with a clean, damp cloth. Also, wipe the top of the dispenser, including the lip of the reservoir. Always keep full bottles standing upright, away from direct sunlight. And never spray around your dispenser, nor use it as a shelf.

Enjoy your bottled water in confidence and good health.

RECOMMENDED TIPS GIVEN BY THE INTERNATIONAL BOTTLED WATER ASSOCIATION (IBWA)

CLEANING & SANITIZING GUIDES

Sanitizing Bottled Water & POU Coolers (U.S. Version)

1. **Prepare a 50 parts per million (ppm) chlorine sanitizing solution. Mix (enclosed measuring spoon) of Antibac "B" from Diversey Corp in 1 U.S. gallon of water or 5 spoons of Antibac "B" in 5 U.S. gallons of water. *Note: ensure spoons are level.**

   CAUTION: Chlorine is extremely corrosive to stainless (and other) steels. Use of too much chlorine in the sanitizing solution will cause surface rust and pitting of the stainless steel reservoir and other cooler components. Never use a sanitizing solution greater than 50 ppm chlorine.

2. **If the cooler is equipped with a hot tank, plug the hot tank inlet with a small tapered rubber stopper to keep sanitizer from entering the hot tank. The high temperatures within the hot tank will kill most bacteria, making the addition of sanitizer to the tank unnecessary. Since sanitizers are especially corrosive at the high temperatures of a hot tank, it is good practice to keep the solutions from entering the hot tank.**

3. **Allow the faucet(s) and baffle(s) to soak in the sanitizing solution for 2-4 minutes. Remove the parts from the sanitizer solution and allow to dry.**

   CAUTION: Soaking plastic components in sanitizer for extended periods of time may stain or damage the parts.

   Do not touch sanitized parts with bare hands! Wear gloves or use sanitary, food-grade tissue to pick up sanitized parts. If gloves are reused, they must be resanitized prior to each use by dipping the outside of the glove into sanitizer.

Stainless Steel Reservoirs

4. **Using a small hand-held spray bottle, spray a fine mist of sanitizing solution on the inside surface of the cold water reservoir. Keep the spray as fine as possible to prevent excess solution from puddling on the bottom of the reservoir, which could cause corrosion or a taste problem. Allow the reservoir to air dry.**

   If immersion type sanitizing of the reservoir is performed, then block the inlet of hot tank before pouring sanitizer into the reservoir. Allow the sanitizer to remain in the reservoir for 2 minutes, then drain the sanitizer through the faucets. Rinse the reservoir with 1 gallon of clean water.

5. **If a stopper has been installed in the hot tank inlet, remove the stopper. Re-install the baffle and faucets. Cover the reservoir with sanitary food-grade, lint free tissue to protect from dirt and other contamination.**

RECOMMENDED METHODS FOR DESCALING HOT TANKS

Read the directions thoroughly before starting descaling procedure(s).

Water with high mineral content can cause mineral build-up inside the hot tank. This mineral build-up is usually called "lime" or "scale". The length of time necessary for scale build-up depends on the mineral content and the pH of the water. Likewise, the difficulty in removing scale depends on the chemical make-up of the scale.

It is important to use the mildest method that dissolves the scale build-up to prevent damage to the tank, which could add taste to the water and lead to premature tank failure. Descaling should always be done at a service center where there are provisions for disposing of the descaling solution(s).

The methods given below provide increasingly stronger acid treatment for de-scaling hot tanks. Method 1 (citric acid) is the mildest. Method 2 (sulfamic acid) is stronger than the citric acid in Method 1, but milder than Method 3 (phosphoric acid). Method 3 (phosphoric acid) is the strongest and is only suitable for stainless steel tanks.

> **CAUTION - Only Method 1 (citric acid) and Method 2 (sulfamic acid) are compatible with brass hot tanks. NEVER use Method 3 (phosphoric acid) to remove scale from brass hot tanks. Use of phosphoric acid on brass hot tanks can add taste to the water and will cause tank failure**
>
> **WARNING - Consult manufacturer's instructions and Material Safety Data Sheet (MSDS) before using any of the chemicals referenced. MSDS sheets are provided with the chemicals or are available from the chemical supplier.**

METHOD 1: Citric Acid For De-scaling Hot Tanks

1. **Unplug the unit, remove the drain plug and drain the hot tank.**

2. **Prepare solution of food-grade* citric acid for dissolving scale build-up. Dissolve 8 oz. of food-grade citric acid in two quarts of water. Use distilled water or low mineral content bottled water.**

   NOTE: Hot water is preferred because acid crystals will dissolve more quickly in hot water and hot water will act more quickly to dissolve scale.

   CAUTION: Use care in handling citric acid. Gloves and eye protection are recommended to prevent skin irritation or eye injury.

3. **Replace drain plug in hot tank. Use a funnel to pour the two quarts of citric acid solution directly into the hot tank.**

   NOTE: Opening the hot faucet when pouring the solution into the hot tank will help minimize splashing.

   CAUTION: Be careful when handling heated acid solution to avoid danger of burn.

4. **Then fill the cold water reservoir with room temperature water.**

5. **Plug into the unit to energize the hot tank. Allow unit to cycle for 30 minutes.**

6. **Unplug the unit. Drain the hot tank through the hot faucet until the water is no longer warm. The water may be discolored and could stain clothing, the exterior of cooler, etc.**

7. **Remove the drain plug and drain the hot tank. Re-install the drain plug, and refill the hot tank. Again remove the drain plug and drain the hot tank. Repeat this sequence as required, using at least two gallons of water until there is no evidence of minerals.**

8. **Flush the used acid solution down the drain with running water.**

METHOD 2: Sulfamic Acid for De-Scaling Hot Tanks

Note: Do not use Method 2, sulfamic acid, unless Method 1, citric acid, has been tried and failed to adequately remove mineral build-up from the hot tank.

1. **Unplug the unit, remove the drain plug, and drain the hot tank.**

2. **Prepare a solution of ACS Grade* Sulfamic acid. Dissolve 4 oz. of food-grade sulfamic acid in 2 quarts of clean water. Use distilled water or low mineral content bottled water.**

   NOTE: Hot water is preferred because acid crystals will dissolve more quickly in hot water, and hot water will act more quickly to dissolve scale.

   CAUTION: Use care in handling acid. Gloves and eye protection are recommended to prevent skin irritation or eye injury. Wash thoroughly after handling. To avoid chemical reaction, keep sulfamic acid away from oxidizers such as chlorine and ozone, and strong bases such as caustic soda, washing soda (sodium carbonate), and sodium meta-silicate (often use in bottle washers).

3. **Replace drain plug in hot tank. Use a funnel to pour the two quarts of citric acid solution directly into the hot tank.**

   NOTE: Opening the hot faucet when pouring the solution into the hot tank will help minimize splashing.

   CAUTION: Be careful when handling heated acid solution to avoid danger of burn.

4. **Then fill the cold water reservoir with room temperature water.**

5. **Plug in the unit to turn on the hot tank. Let the unit cycle for 30 minutes.**

6. **Unplug the unit. Drain the hot tank through the hot faucet until the water is no longer warm. The water may be discolored and could stain clothing, the exterior of the cooler, etc.**

7. **Remove the drain plug and drain the hot tank. Re-install the drain plug, and refill the hot tank. Again remove the drain plug and drain the hot tank. Repeat this sequence as required, using at least two gallons of water until there is no evidence of minerals.**

8. **Flush the used acid solution down the drain with running water.**

METHOD 3: Phosphoric Acid For De-Scaling Stainless Hot Tanks

CAUTION: Do not use Method 3 (phosphoric acid) unless Methods 1 and 2 have been tried and failed to adequately remove mineral build up from the stainless hot tank.

WARNING: Method 3 is suitable for stainless hot tanks only! Do not use phosphoric acid in brass tanks.

1. **Unplug the unit, remove the drain plug, and drain the hot tank.**

2. **a) RECOMMENDED - Use a 1.0% solution of Sentol (available from Diversey Wyandotte, sales office phone number 1-800-233-1000).**

   CAUTION: Sentol is a red ortho-phosphoric acid-based cleaning agent. Consult manufacturer's instructions and Material Safety Data Sheet (MSDS) before using. Follow the manufacturer's instructions for preparing two quarts of a 1% solution of Sentol. Use distilled water or low mineral content bottled water.

   b) ALTERNATE - Use a 1.0% solution of food-grade* ortho-phosphoric acid. Add 1 oz. of food-grade ortho-phosphoric acid to 2 quarts of cold or room temperature water.

CAUTION: NEVER ADD WATER TO PHOSPHORIC ACID!
Always add phosphoric acid to water to avoid severe chemical reaction and danger of burn!

WARNING: Phosphoric acid is extremely corrosive to skin and eyes. Protective, acid-resistant clothing, impervious gloves, and chemical splash goggles, available from any local safety equipment supply dealer, are required when handling phosphoric acid.

To avoid chemical reaction, keep phosphoric acid away from strong bases such as caustic soda, washing soda (sodium carbonate), and sodium meta-silicate (often used in bottle washers). Wash thoroughly after handling.

Consult Material Safety Data Sheet (MSDS) supplied with the phosphoric acid for additional information.

3. **Replace drain plug in hot tank. Use a funnel to pour the two quarts of citric acid solution directly into the hot tank.**

   NOTE: Opening the hot faucet when pouring the solution into the hot tank will help minimize splashing.

   CAUTION: Be careful when handling heated acid solution to avoid danger of burn.

4. **Then fill the cold reservoir with room temperature water.**

5. **Plug in the unit to turn on the hot tank. Let the unit cycle for 8 to 10 minutes. Then immediately unplug the unit and allow to stand for an additional 15 to 20 minutes.**

6. **Drain the hot tank through the hot faucet until the water is no longer warm. The water may be discolored.**

7. **Remove the drain plug and drain the hot tank. Re-install the drain plug, and refill the hot tank. Again remove the drain plug and drain the hot tank. Repeat this sequence as required, using at least two gallons of water until there is no evidence of minerals.**

Use pH paper to check that all acid has been flushed from the tank.

8. **Flush the used acid solution down the drain with running water.**

*** A food-grade chemical has been tested and meets the requirements of the Food Chemical Codex (FCC). If this grade is not available, then a chemical meeting the purity standards of the U.S. Pharmacopeia (U.S.P.), or reagent grade meeting the standards of the American Chemical Society (ACS) may be substituted.**

Citric acid, sulfamic acid, and ortho-phosphoric acid are available from Fisher Scientific Inc; 1-800-766-7000, or from any scientific supply house. Fisher Scientific catalog numbers are provided for your reference below. The dash number refers to the package size.

FISHER SCIENTIFIC CATALOG NUMBERS

Type of Acid	Available Grade	Catalog Number
Citric Acid	USP Grade	A95-3
Sulfamic Acid	ACS Grade	A295-500
Ortho-Phosphoric Acid	NF/FCC Grade	A365-1

Cooler Sanitizer

Operation & Maintenance Manual

Sunroc Cooler Sanitizer Operating and Maintenance Instructions

1.0 Unpacking the Unit:

Some minor assembly may be required before using the sanitizer for the first time. Please follow the instructions below for initial assembly:

1. **Do not remove ozone generator housing from the carrying bag - all assembly can be accomplished with unit still in the the bag.**
2. **Locate the following components for assembly**
   - **6' of tubing**
   - **Ozone diffuser head assembly**
   - **Reservoir cover (Note: the reservoir cover may be packed inside one of the outside pockets of the carrying bag)**
3. **Attach one end of the tubing to the open end of the check valve protruding from the ozone generator housing.**
4. **Insert the opposite end of the tube through the grommet in the reservoir lid and allow for approximately 8-9" of tubing to extend below. Take care to insert the tubing through the top of the lid so that the ozone diffuser will be located on the underside.**
5. **Slide at least 1" of the open end of the tubing over the stainless tube on the ozone diffuser head assembly.**
6. **Unit is now assembled and ready for use. Read the operating instructions below before using.**

2.0 Basic Operating Instructions:

1. **Unplug cooler**
2. **Remove cooler top and manually wipe down upper reservoir area.**
3. **Remove baffle, and if ice ring is present, remove from reservoir and dispose.**
4. **If the unit is a hot and cold unit, plug hole for hot tank inlet.**
5. **Fill reservoir to within 1/2" (1 cm) of the top with clean bottled water.**
6. **Unpack head assembly of sanitizer, taking care not to kink the flexible tubing.**
7. **Insert diffuser probe to the bottom of the reservoir.**
8. **Position reservoir cover on sanitizer over the cooler reservoir.**
9. **Position Ozonator above water line of water cooler**
10. **Plug cooler sanitizer into properly grounded receptacle.**
11. **Turn the main power switch. Green light should now illuminate.**
12. **Press momentary switch to start unit. Amber light should now illuminate.**
13. **Upon completion of operational cycle, amber light will turn off.**
14. **Turn off main power and unplug unit**
15. **Drain reservoir cover and diffuser assembly.**
16. **Remove reservoir cover and diffuser assembly.**
17. **Dry all sanitizer items (cover, diffuser, etc.) before repackaging.**
18. **If the unit is hot and cold, remove hot tank inlet plug.**
19. **Install baffle into unit, making sure it is pushed all the way into reservoir.**
20. **Replace cooler cover and install no-spill device if previously installed.**
21. **Carefully repackage all sanitizer components. Do not kink the flexible tubing.**
22. **Re-plug cooler into wall outlet.**

WARNING: The Sunroc Cooler Sanitizer is a high voltage instrument. Do not immerse ozone generator housing in water or operate in wet environments.

WARNING: Inhalation of high levels of ozone can be dangerous. Do not operate diffuser assembly out of water. Do not inhale ozone directly from the diffuser assembly.

3.0 Limited Warranty

Sunroc Corporation warrants the Tech Express Sanitizer to be free from defects in parts and workmanship for (12) months from date of invoice, under conditions of normal use.

Sunroc Corporation will perform repairs or replace equipment, within the Limited Warranty period.

The warranty shall be null, void, and non binding if Sunroc Corporation (or authorized service center) determines the cause of malfunction or defect to be a result of 1) Failure to perform proper maintenance as defined and recommended in this manual, 2) Failure to adhere to and provide proper operating conditions, as defined in this manual, including operation outside of temperature range, operating in wet or dirty environment, operation outside of manufacturer's specifications, 3) Adjustments made by user other than product output flow rate within ranges specified by manufacturer.

Sunroc Corporation assumes no liability for damages incurred by deliberate or incidental misuse of this product, or damages incurred in transit.

4.0 Service Returns

If the need arises to return your equipment for service, the following procedure must be followed to ensure accurate and timely processing of repairs.

- **Note the serial number of unit to be returned.**
- **Note model number/name of unit to be returned.**
- **Contact Sunroc and request a Return Material Authorization number. Ensure the factory representative has an accurate and current shipping address.**
- **Enclose a description detailing the problem with the unit. Be as specific as possible.**
- **After receipt of RMA number, package unit for shipment.**
- **Clearly write the RMA number on the outside of the shipping package.**
- **Verify that the address is correct and current.**
- **Shipments that are not factory authorized will be refused.**

We recommend that you ship with a reputable and reliable shipping company, and that the content of the package is insured. Sunroc Corporation accepts no responsibility for damage or loss of equipment in transit.

ALL FREIGHT CHARGES TO THE FACTORY MUST BE PREPAID. If the repair is under warranty, the factory will pay return shipping charges (surface rates only) to the address listed on the RMA, within the Continental United States. If the repair is not covered under warranty, the returning party is responsible for payment of return shipping and handling charges, as well as labor and equipment costs associated with the repair.

5.0 Caution

Read the following safety guidelines thoroughly before attempting to operate or install your equipment.

- **As with all electrical devices, this equipment should never be allowed to come in contact with water.**
- **Only qualified personnel should be allowed to set up, maintain and operate this equipment.**
- **The equipment must be operated using a grounded electrical connection.**
- **Sunroc Corporation assumes no liability for damages or injuries incurred by misuse of this product.**
- **Do not use an extension cord to supply power to this equipment.**
- **Use a Power Conditioner if line voltage fluctuates outside of specified range.**

Note: To avoid water siphoning back to Generator, make sure the Sanitizer is positioned higher than the equipment to be sanitized.

6.0 Theory of Operation

The Sunroc Tech Express Sanitizer is a state-of-the-art device designed to produce ozone. The technology utilized to perform this function is "Cold Plasma" Corona Discharge Ozone Generation. Cold Plasma Corona Discharge generators create ozone through the action of high voltage, low current electrical "arcs" across an air space. When oxygen (O2) is passed through the air space, some molecules are split, resulting in "free" oxygen atoms which quickly attach themselves to intact O2 molecules. The result is a very unstable form of oxygen, O3 (ozone). It is the extra atom of oxygen that gives ozone it's superior oxidation capabilities.

6.1 Cold Plasma Corona Discharge Ozone Generation

The patented cold plasma technology represents the heart of the ozone generator. As opposed to the plate type or open air dielectric corona generators, the cold plasma CD cell is filled with proprietary gases within a vacuum environment. The cells are then surrounded by a fluted perforated stainless steel grid. With high voltage applied, the combination of the tube and grid provide a condensing action to produce ozone.

Improvements in the design have lead to a method of producing ozone wherein the cell is: 1) Capable of withstanding high voltage inputs without plating; 2) No relative expansion and contraction of the parts; 3) Able to operate at lower temperatures than conventional corona discharge generators thus improving reliability and efficiency without the need for separate cooling water circuitry; 4) Maximum ozone output with minimum high voltage input.
Each tube(s) is separately housed within its own holding chamber (manifold) with consideration for maximum efficiency. In other words, all the air that is drawn through the chambers is passed directly through the ozone producing region of the grid with little or no waste from improper channeling.

Construction and design of the interface between tube assembly and receiving chamber(manifold) is such that the tube can be removed for ease of maintenance and service. This is accomplished via male and female threaded adapters.

7.0 Operating Environment

External

It is most important to chose a cool, clean external operating environment. Consideration of these factors should be a priority. Mount your sanitizer in the best possible operating environment that is available at chosen site. If at all possible mount in an area that is free of airborne moisture particles.

Internal

Keep the inside of the generator chassis clean and dry. Dust particles and condensation pose a challenge to the consistent operation of all ozone generators. Make a note to inspect the internal cleanliness of the equipment when you perform your scheduled maintenance. For further information refer to section 6.0.

7.1 Input Power Requirements

Sunroc Corporation offers the Tech Express Sanitizer in a variety of configurations to accommodate a wide range of world supply voltages and frequencies. Refer to voltage label on the side of the unit for specific voltage and frequency requirements. It is extremely important that your equipment is provided with the appropriate operating power source. Most supply voltages fluctuate, so it is necessary to monitor your voltage and assure it is within acceptable variance values listed below.

Voltage = (Specified) +/- 5%

Frequency = (Specified) +/- 5%

Power Consumption = 36 Watts (Nominal)

Note: If your line voltage fluctuates beyond acceptable variance, it will be necessary to connect your equipment to a Line Conditioner.

8.0 Maintenance

The Sunroc Tech Express Sanitizers are delivered factory tested, calibrated, and adjusted for maximumefficiency and long life. Simple maintenance and appropriate operating conditions are the only requirements to keep the unit functioning within manufacturer's specifications.
Performing any other modifications or adjustments to internal components will cause the unit to function outside of manufacturer's specifications, and will cause damage to the unit not covered under terms of warranty.

8.1 Sanitizer Maintenance

Frequency of Maintenance - 3-6 months

<u>To maintain the Sanitizer:</u>

- **Disconnect unit from power source.**
- **Remove back cover.**
- **Inspect the inside of the sanitizer for dust and moisture.**
- **Thoroughly clean and dry the inside of the sanitizer.**
- **Replace back cover.**
- **Replace the ozone resistant check valve on ozone gas outlet line.**
- **Now continue to CD Cell Maintenance section.**

8.2 Corona Discharge Cell Maintenance

Corona Discharge Cell Maintenance is simply a matter of keeping the tube clean and dry. Depending on your model, you may have more than one Corona Discharge Cell to maintain. Refer to Figure 1 for general layout.

Frequency of Maintenance - 3-6 months

<u>To maintain the Corona Discharge Cell(s):</u>

- **Disconnect unit from power source.**
- **Remove Chassis Lid.**
- **Remove cap located directly at the top of each ozone tube. Remove wire that is connected to male spade lug via female quick disconnect and direct the high voltage lead(s) aside.**
- **Remove the Corona Discharge Cell(s). LIFT THE CORONA DISCHARGE CELL STRAIGHT OUT OF THE MANIFOLD(S). Your Corona Discharge Cell(s) are made of glass, so extreme care must be taken to avoid breakage!**

- **Clean the entire cell (glass as well as plastic top) with glass cleaner, or soap and water. DRY THOROUGHLY. Note: Replacing a wet cell will cause damage to the unit.**

CAUTION - If there is a liquid substance present on glass exterior, it may be acidic in nature. CARE SHOULD BE TAKEN TO AVOID DIRECT CONTACT WITH SKIN.

- **Wrap threads and O-Ring with Teflon tape.**

- **Reassemble by reversing Steps above.**

NOTE: DO NOT OVER TIGHTEN CORONA DISCHARGE CELL. O-RING SHOULD ONLY BE SLIGHTLY COMPRESSED.

9.0 Spare/Replacement Parts

Part No.	Description	List Price
A021048	Carrying Bag	$ 100.00
A021052	Foam Base	$ 3.00
B154626	Diffuser Assy	$ 80.00
A021063	Grommet	$ .90
A021044	Supply Tube 6'	$ 2.00
A021212	Check Valve Assy.	$ 60.00
A021255	Corona Tube Assy.	$ 150.00
B154718-01	Fuse 115V	$ 1.00
B154718-02	Fuse 230V	$ 1.00
A021215	Air Pump 115V	$ 60.00
A021216	Air Pump 230V	$ 60.00

10.0 Troubleshooting Guide

Trouble-shooting should be performed by a qualified electrician, in accordance with sound electrical safety practices.

Symptom	Possible Cause	Remedy
Unit does not turn on.	Unit is not connected to power source, or is connected to improper power source.	Refer to label on side of chassis for voltage/ frequency requirements. Connect unit to proper power source.
	Blown fuse	Replace fuse
	Interlock switch not engaged	Bend switch up slightly so lid can engage when fully down.
Unit keeps blowing fuses.	Electrical short circuit.	Visually inspect unit, and check for loose connections. Inspect Corona Discharge Cell for damage. Inspect High Voltage Transformer for burn marks. Inspect wire from High Voltage Transformer to Corona

Troubleshooting Guide Continued

Symptom	Possible Cause	Remedy
		Discharge Cell for disconnection or burn marks. Repair any and all problems prior to placing unit in service, or contact factory for service information.
	Incorrect fuse value and type are being used.	Compare fuse to label on side of unit. Replace with appropriate size/type fuse. Refer to Spare/ Replacement Parts for replacement part information.
	Unit is connected to improper power source.	Refer to label on side of chassis for voltage/frequency requirements.
Unit is putting out approximately 1/2 of rated output.	220 Volt unit is plugged into a 110 Volt outlet or power source.	Refer to label on the side of the unit to ensure that unit is plugged into proper voltage outlet.
Unit turns on, but no ozone output	Transformer defective	Replace transformer
	Transformer High Voltage lead(s) not connected to ozone tube(s).	Connect lead(s) to Corona Discharge Cell(s).

Figure 1

TYPICAL GENERATOR LAYOUT