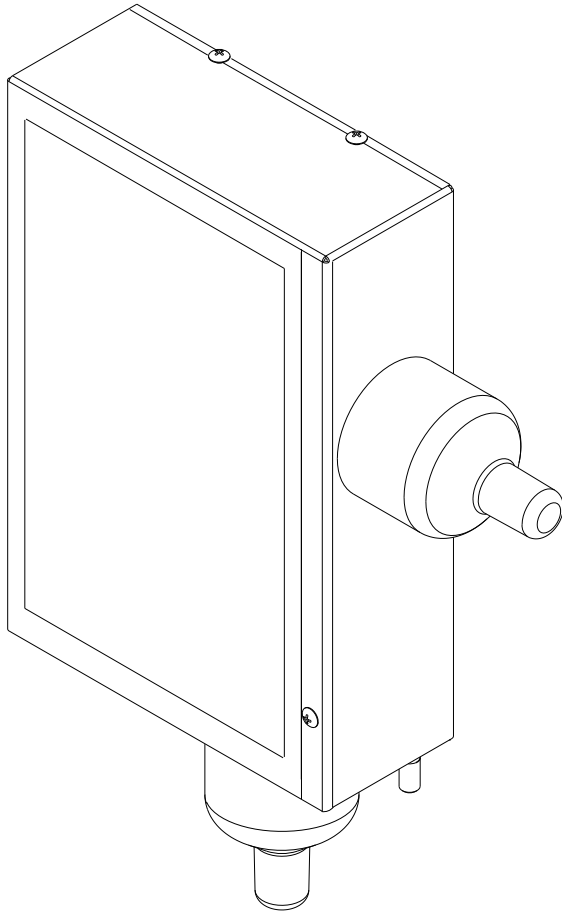




DEL AOP® SPA OZONE + UV SANITATION

INSTALLATION INSTRUCTIONS & PRODUCT MANUAL
SES-UP-TXX



THE COMPLETE MODERN SPA® C-M-P.COM/SPA-SANITIZERS

IMPORTANT SAFETY INFORMATION: READ AND FOLLOW ALL INSTRUCTIONS

Save these instructions. Leave manual with homeowner after installation. Improper installation, adjustment, alteration, service, or lack of maintenance can cause injury or property damage. Read the installation, operating, & maintenance instructions thoroughly before installing or servicing this equipment.

IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS

Read this manual completely before attempting installation. All permanent electrical connections should be made by a qualified electrician. Follow all applicable electrical codes. When installing the DEL AOP® Spa, basic precautions should always be followed:

⚠ DANGER Be sure the electrical power is shut OFF at the main circuit breaker before installing the DEL AOP® Spa.

NOTICE If the DEL AOP® Spa electrical connection is to be attached to the spa controls, be sure the spa controls are protected by a Ground Fault Circuit Interrupter (G.F.C.I.). If the DEL AOP® Spa is connected to an independent electrical supply, then a G.F.C.I. must be installed between the DEL AOP® Spa and the electrical supply.

⚠ WARNING To reduce the risk of electrical shock, if the power cord is damaged, replace the entire unit immediately.

NOTICE The DEL AOP® Spa must be mounted under the spa skirt, sheltered from environmental elements (rain, sun, sprinklers).

NOTICE Plastic ozone supply tubing is available with the DEL AOP® Spa. Never replace this tubing with metal tubing.

⚠ CAUTION Do not operate the DEL AOP® Spa unless sufficient air flow is being drawn through the unit.

⚠ WARNING Short term inhalation of high concentrations of ozone and long term inhalations of low concentrations of ozone can cause harmful physiological effects. Do not inhale ozone gas produced by this device.

⚠ WARNING Exposure to UV light from this device is harmful to skin and eyes. Do not attempt to remove or service the UV lamp while it is lit.

SAVE THESE INSTRUCTIONS!

TABLE OF CONTENTS

SECTION 1 Installation Instructions

1. Overview	4
2. Mounting.....	4
3. Plumbing	5
4. Electrical.....	6
5. Operation.....	6

SECTION 2 Maintenance Instructions

6. Maintenance	7
a. Lamp Removal.....	7
b. Installing the UV Lamp	7
c. UV Reactor Service & Maintenance.....	7
d. Quartz Tube Removal & Cleaning.....	8
e. Quartz Tube Installation.....	9
f. Check Valve	9
g. Standard Replacement Parts List.....	9

SUPPORT	10
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DIAGRAMS SHOWN IN THESE INSTRUCTIONS

<i>page 4.....</i>	<i>DEL AOP® SPA SYSTEM OVERVIEW</i>
<i>page 5.....</i>	<i>DEL AOP® SPA PLUMBING DIAGRAM</i>
<i>page 6.....</i>	<i>DEL AOP® SPA EXPLODED VIEW</i>

SECTION 1 Installation Instructions

1. Overview

Achieve The Complete Modern Spa® by choosing sanitizing components that work together, creating the best possible installation. The DEL AOP Spa is a UV/Ozone sanitation unit designed for use in portable spas and to be controlled by the spa's equipment pack. Please contact customer support if the DEL AOP Spa is used in an application other than a portable spa.

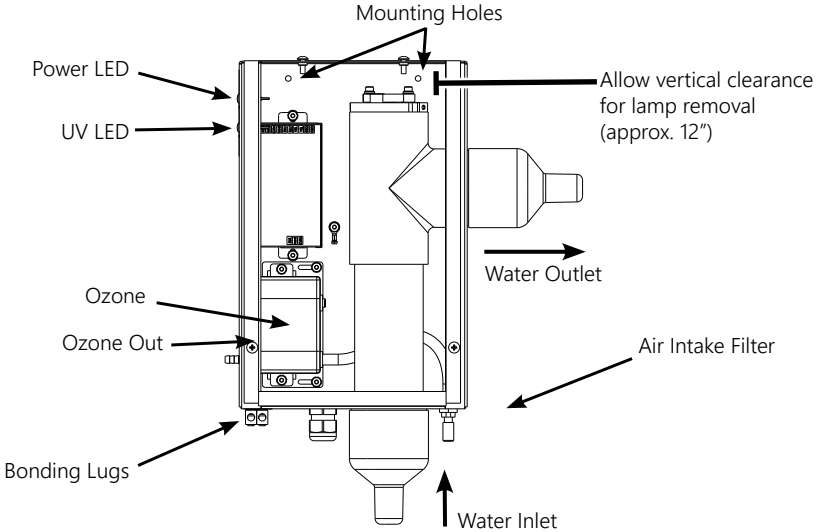


Figure 1: DEL AOP® Spa System Overview

2. Mounting

- a. Use the two mounting holes located internally on the back panel of the DEL AOP Spa (Figure 1).
- b. Mount the DEL AOP Spa to the spa frame with #8 hardware. The preferred mounting orientation is shown in Figure 2. Connect water inlet at the bottom. Contact customer support for other installation options.

SECTION 1 Installation Instructions

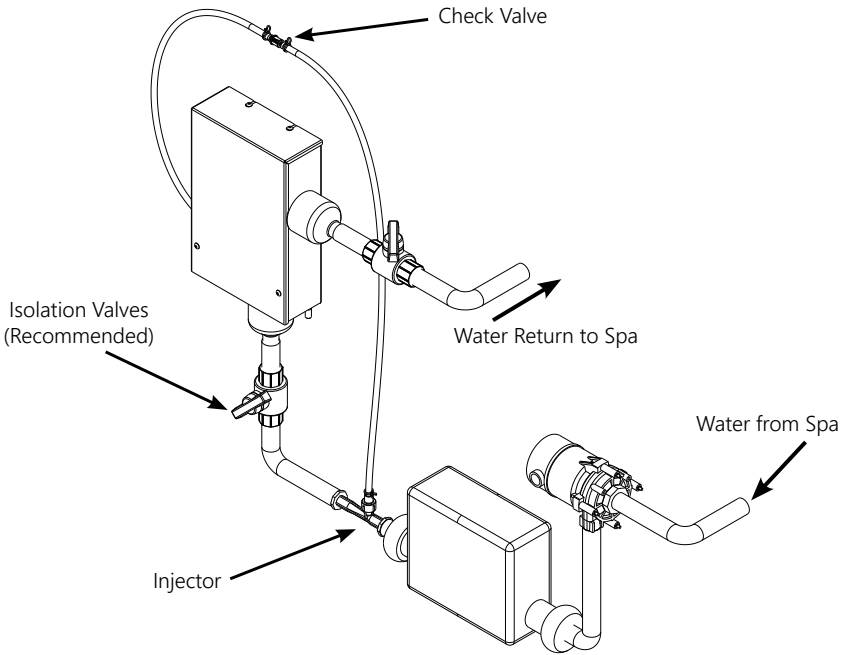


Figure 2: DEL AOP® Spa Plumbing Diagram

3. Plumbing

The ozone injector is to be installed upstream of the DEL AOP Spa so the ozone can pass through the UV reactor. This interaction leads to advanced oxidation process which will improve sanitation. However, the DEL AOP Spa will function properly if the ozone injector is installed downstream.

- a. Connect ozone compatible tubing (1/4" internal diameter) to the open hose barb on the DEL AOP Spa
- b. Run tubing to the ozone injector or appropriate vacuum source.
 - i. If the DEL AOP Spa is mounted above the water line, tubing may be run directly to the vacuum source.
 - ii. If the DEL AOP Spa is mounted below the water line, run tubing to a point above the water line and back down to the vacuum source.
- c. Install the check valve in the tubing above the water line. Ensure flow direction is from the DEL AOP Spa to the vacuum source.
- d. Secure all tubing connections with hose clamps.

SECTION 1 Installation Instructions

4. Electrical

- a. Verify that there is no power to the spa and connect the DEL AOP Spa cord to the mating connector(s) on the spa controller.
- b. Where possible, route the DEL AOP Spa power cord away from other electrical lines. Avoid routing the power cord parallel to any low-voltage signal wires.
- c. Use a minimum 8 AWG solid copper conductor to connect the bonding lug provided on the enclosure base to the spa equipment ground.

5. Operation

If installed correctly, the DEL AOP Spa will turn on and off as required by the spa controller. After installation, turn the spa on and verify that the POWER ON and UV LAMP ON indicator lights are illuminated. Repair any leaks in the water or ozone lines and verify that small bubbles can be seen in the return flow. Finally, turn the Spa off and make sure that the POWER and UV indicator lights are not illuminated.

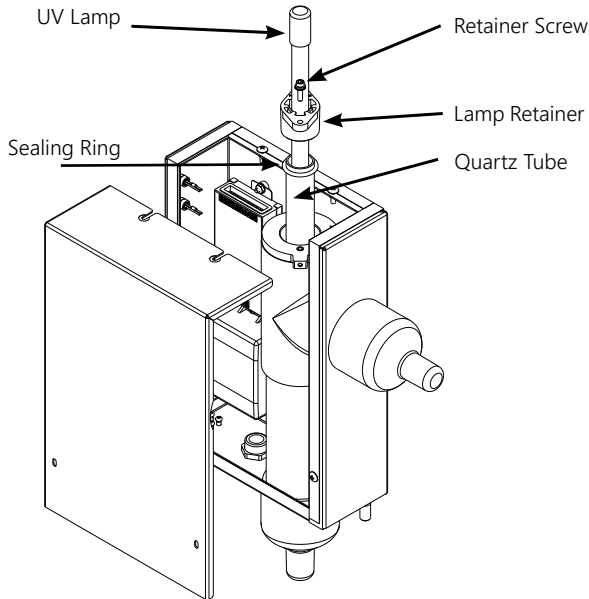



Figure 3: DEL AOP® Spa Exploded View

SECTION 2 Maintenance Instructions


6. Maintenance

 **WARNING** Before performing any maintenance on the DEL AOP Spa, make sure the spa is shut down.

6A. UV Lamp Removal (see Figure 3)

If the power indicator is on, but the UV lamp indicator is off, the UV lamp needs to be replaced. For maximum UV sanitation effect, replace the UV lamp every 18 months, even if the lamp continues to shine light.

- i. Make sure the unit is disconnected from power and the lamp has cooled before starting maintenance.
- ii. Open the DEL AOP Spa by removing the two front screws and loosening the two Enclosure Screws on the Upper enclosure assembly. Pull the cover from the enclosure base.
- iii. Disconnect the lamp connector attached to the lamp wires.
- iv. Gently pull on the lamp wires until the top of the UV lamp is out of the lamp retainer. Grasp the white ceramic end of the UV lamp and pull until it is fully removed. Gently twisting the lamp may facilitate removal. If the UV lamp will be reused, **AVOID TOUCHING THE UV LAMP GLASS WITH YOUR BARE HANDS**. Handle the lamp carefully and set aside. If discarding, dispose of properly (see the following note).

 **NOTICE** UV Lamp CONTAINS MERCURY. Manage in accordance with disposal laws. See www.lamprecycle.org.

6B. Installing the UV Lamp

- i. Make sure to handle the new lamp by the ceramic endcaps. Be careful not to touch the UV lamp. If necessary, wipe off the UV lamp with alcohol and a lint free cloth before installing.
- ii. Slowly place the UV lamp into the lamp retainer until the top of the UV lamp is pushed past the tabs on the lamp retainer.
- iii. Connect the lamp connector to its corresponding part in the ballast assembly.

6C. UV Reactor Service and Maintenance

The UV lamp is housed in a quartz tube. If the quartz tube becomes dirty, its ability to transmit rays from the UV lamp will be diminished and decrease system performance. The quartz tube should be removed from the UV reactor at least once a year or during a routine spa water change for inspection and cleaning. More frequent cleaning may be necessary depending on water conditions.

SECTION 2 Maintenance Instructions

6D. Quartz Tube Removal and Cleaning

⚠ CAUTION Wear proper eye and skin protection for servicing glass components.

NOTICE Damage caused by broken quartz tubes is not covered under the DEL AOP Spa Limited Warranty.

⚠ CAUTION If broken glass is trapped in the spa system, do not operate the spa. Contact a service professional to have the glass removed.

- i. Make sure the spa is shut down and the system has cooled before performing maintenance on the quartz tube. If you have installed isolation valves, close them before servicing. If you do not have isolation valves, the spa must be drained below where the DEL AOP Spa is mounted.
- ii. Remove the enclosure cover and UV lamp as described in Section 4C and set aside.
- iii. Remove the two retainer screws and retainer washer from the top of the lamp retainer and pull the lamp retainer out of the UV chamber cap.

NOTICE Any water remaining in the system above the level of the DEL AOP Spa will flow out of the UV housing once the lamp retainer is removed.

- iv. Grasp the inside of the quartz tube and pull it out of the housing. Make sure the sealing ring does not get lost during quartz tube removal.
- v. Inspect the quartz tube for cracks and replace if cracks are found. Inspect the sealing ring for nicks or hardness and replace if necessary.
- vi. Clean the quartz tube exterior with a mild solution of muriatic acid and water in a ratio of four parts water to one part acid (4:1). DO NOT USE ABRASIVE CLEANERS.

⚠ CAUTION Follow the directions for safe use and handling of muriatic acid on the acid bottle label. When mixing, always add acid to container first, then add water.

- vii. After cleaning the quartz tube, wash it off with water and wipe dry with a soft towel.
- viii. Make sure the inside of the quartz tube is dry before installing the UV lamp.

SECTION 2 Maintenance Instructions

6E. Quartz Tube Installation

- i. Place the sealing ring on the quartz tube 3/4 inch from the open end.
- ii. Insert the quartz tube partially into the UV chamber. Place the lamp retainer over the open end of the quartz tube and slowly push in until it is touching the UV chamber cap.
- iii. Place the retainer washers onto the retainer screws and tighten the lamp retainer screws until the lamp retainer is completely seated against the UV chamber cap.
- iv. After spa is refilled, turn the spa ON and check the seal around the lamp retainer for leaks.
- v. If the unit leaks, please contact customer support at following number: 1-800-733-9060.
- vi. SHUT DOWN the spa once you have confirmed that there are no leaks.
- vii. Install the UV lamp as described in Section 4.
- viii. Reinstall the upper enclosure assembly to the enclosure base.
- ix. The unit is now ready for normal operation.

6F. Check Valve

- i. Inspect ozone supply tubing and check valve. If water is evident on ozone generator side, replace check valve immediately. Otherwise, replace annually.
- ii. Replace air filter as needed.

6G. Standard Replacement Parts List

- | | |
|---------------------------------|-----------|
| i. Replacement UV Lamp Assembly | 9-1100-01 |
| ii. Quartz Tube Replacement Kit | 9-1204-01 |
| iii. Sealing Ring | 7-1981-01 |

SAVE THESE INSTRUCTIONS

Record Information on this System Below & Keep for Your Records

Installer _____

System Purchased From _____

Installation Date _____

Serial Number _____

Model Number _____

CMP Customer Service & Tech Support

Toll Free: 1-800-733-9060

FAX: 770-632-7115

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Warranty Questions

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