



### **CLEAR 03<sup>™</sup> WATER PURIFYING SYSTEM**

INSTALLATION MANUAL



# **SAFETY INSTRUCTIONS**



"IN ACCORDANCE WITH CANADIAN STANDARDS ASSOCIATION'S STANDARD NO. CAN/CSA - C22.2 NO. 218.1 - M89", **OZONE GENERATOR** WITH RESPECT TO RISKS OF ELECTRIC SHOCK FIRE AND MECHANICAL INJURY ONLY

34YZ

#### IMPORTANT SAFETY INSTRUCTIONS: READ COMPLETELY BEFORE PROCEEDING WITH **INSTALLATION. SAVE THESE INSTRUCTIONS**

When using this electrical equipment, basic safety precautions should always be followed, including the following:

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#### **CAUTION: READ AND FOLLOW ALL INSTRUCTIONS** WARNING:

- · Follow all applicable electrical codes.
- A qualified licensed electrician should perform electrical hookup.
- Turn off power at main source before making any electrical connections or servicing the unit.
- Use only liquid-tight flexible nonmetallic conduit for electrical connections.
- A terminal marked G is located inside the supply terminal compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electrical supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying this equipment.
- At least one lug marked "BONDING LUG" provided on the external surface of the unit. To reduce the risk of electric shock, connect the local common bond grid in the area of the pool or spa to this terminal with an insulated or bare copper conductor not smaller than 6 AWG.

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### WARNING:

- ALWAYS wear safety glasses when using power equipment during the installation process.
- Install at least 5 ft from pool or spa water using nonmetallic plumbing. Mount ozone generator near pool equipment at least one (1) foot above maximum water level to prevent water from contacting electrical equipment. Install in accordance with the installation instructions.
- · Short-term inhalation of high concentrations of ozone and long-term inhalation of low concentrations of ozone gas can cause serious harmful physiological affects. Do not inhale gas produced by this unit. If installed in an enclosed space make sure to account for adequate ventilation.
- UV LIGHT PRODUCED BY THIS UNIT IS HARMFUL TO THE EYES AND MAY CAUSE BLINDNESS, DO NOT LOOK DIRECTLY AT A LIT BULB!



### **NOTICE TO OWNER:**

• Save these instructions and deliver to pool owner when installation is complete.

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and Return

Cut Here



### **POOL OWNER INFORMATION**

Name:			
Address:			
City:			
State:			
Zip Code:			
Telephone:			
Fax:			
E-mail:			
Pool Start-Up Date Purchased:			
Type of Pool (check one):	Concrete		Fiberglass
Type of Pool System (check one):	PCC 2000		Pool Valet
	U Vanquish	🗌 Vantage	Cyclean
	Ecopool		
POOL BUILDER INFORMATIO	N		
Name:			
Address:			
City:			
State:			
Zip Code:			

POOL BUILDER INFORMATION
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Name:			
Address:			
City:			
State:			
Zip Code:			
Telephone:			
Fax:			
E-mail:			
Pool Start-Up Date Purchased:			
Type of Pool (check one):	Concrete	Vinyl	Fiberglass
Type of Pool System (check one):	PCC 2000	PV <sup>3</sup>	Pool Valet
	U Vanquish	🗌 Vantage	Cyclean
	Ecopool		
POOL BUILDER INFORMATIO	N		
Name:			
Address:			
City:			
State:			
Zip Code:			

When complete, remove this page, fold, stamp and return to Paramount Pool & Spa Systems. Postal Service: 295 East Corporate Place, Suite 100 • Chandler, AZ 85225

Fax: 480.753.3397 E-mail: Paramount@1Paramount.com Web: www.1Paramount.com/products/warranty.php

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# **CLEAR O3™ WARRANTY REGISTRATION**

A one (1) year warranty on Clear O3™ parts shall be subject to the original owner, as stated in the "Other Related System Parts and Replacement Parts Limited Manufacturer's 1-Year Warranty."



### NOTES

# WHAT IS OZONE AND HOW DOES IT WORK

- (oxidizer) for the swimming pool.
- the air and water at high pressure as it is sent into the filter
- detrimental to chlorine's function in the pool. This occurs between the pump and filter and also as a water disinfectant.
- Pool water treatment can be broken down into three primary categories:
- normally placed in a pool.
- standard treated pools
- 3. Residual- The remaining, measurable sanitizer Usually less than 10% of the chlorine originally placed in a pool is left over as residual.

Installing a Clear O3<sup>™</sup> Water Purification system will reduce the amount of chlorine needed to maintain a pool by up to70%.

The benefits of using ozone include:

- Fewer chemicals to maintain the pool.
- Less work to maintain the pool water.
- More enjoyable water, being treated similar to bottled water.
- Longer filter cycles, and increased life for the salt chlorinator cells (if present).

• Ozone is created from oxygen using a simple yet powerful system of UV bulbs, to be used as a pure shock

• Ozone is injected into the pool water using the Clear O3™ suction injection system, where the ozone enriched air is mixed with the water going into the pool circulation pump. This creates a dynamic environment that best mixes

• Once in the water, the ozone breaks down materials such as ammonia, oils, and other non-living waste that are in the filter. Chlorine is in a group of the least stable elements and must be combined with another material to become stable. In swimming pools, this process creates the formation of combined chlorines, like chloramines, which do not sanitize and have adverse effects on human skin. Use of ozone allows the chlorine to work primarily

1. Disinfectant- The killing of living organisms (virus, bacteria, algae). This consumes only 10-20% of the chlorine

2. Oxidation- The removal of non-living waste from pool water. This consumes up to 70% of the chlorine placed in

is left in the pool as a safety net to maintain the water quality until it is brought through the pool equipment again.

(1) Six (6) feet 1/2" non-metallic conduit outdoor rated.

(1) 1/2" conduit compression fitting.

### **SELECTING LOCATION & MOUNTING CLEAR O3™**

1. Select a location on a wall near the pool equipment or insert posts into the ground, which will be used to hang unit. The Clear O3™ unit should be at least one (1) foot above maximum water level, within five (5) feet of an electrical source, and within nine (9) feet of plumbing connection. A solid surface is necessary to mount unit.

Mounting brackets are horizontally adjustable to line up with hard points on the mounting surface. The unit must be mounted horizontally and level on the wall.

- **2.** Use provided screws and plastic wall inserts or poles and pole mount clamps (not included) depending on installation surface available.
- **3.** Four (4) mounting brackets are included (two for the top slot and two for the bottom slot.
- **4.** Install anchors and screws in desired location for the top hangers. They must be no further apart than twelve (12) inches. Do not tighten screws all the way.

#### (Fig. 1)

- 5. Hang the Clear O3<sup>™</sup> from the two top brackets by sliding the keyhole slots over the screws.
- 6. Mark the location for the two bottom brackets. (Fig. 2)
- 7. Remove the Clear O3<sup>™</sup> from the wall and install the wall anchors.
- 8. Place the Clear O3<sup>™</sup> unit back on the screws and line up the two lower brackets with the wall anchors. (Fig. 3)





9. Install the bottom two screws and tighten all screws.





## NOTES

# MAKING ELECTRICAL CONNECTIONS

- the pool equipments bond wire to comply with local electrical codes. See wiring diagram. (Fig. 5B)
- **2.** Turn off power to the filtration system pump at the circuit breaker.
- filtration system pump time clock with the wires running inside. (Fig. 5A & 5B)



#### WARNING:

Turn off power at main source before making any electrical connections or servicing the unit.





**1.** A licensed electrician should make all electrical connections. Make sure the unit is grounded by connecting to

**3.** Install an approved seal tight flex conduit (not included) rated for outdoor use between the Clear O3™ unit and

# MAKING ELECTRICAL CONNECTIONS (Cont.)

- **4.** Connect green ground wire to the time clock ground bar **(Fig. 6A)**. The Clear O3<sup>™</sup> unit is set to 240VAC to be connected to the load side (Fig. 6B) of the filtration pump time clock. The ballast may be switched to 120VAC if needed (Fig. 7). See wiring diagram (Fig. 4). (Go to page 10 for complete instuctions on changing the ballast setting) The Clear O3™ should run with the filter pump as the filter pump creates the air draw through the unit needed to create ozone. Do not set the Clear O3<sup>TM</sup> to run when the filter pump is off and not pulling air through the unit.
- 5. Use external ground lug to connect the Clear O3™ to the pool pump ground bond. (Fig. 8)
- 6. Turn on power to filtration system pump. Check glow tube on the left front of the Clear O3<sup>™</sup>. A light blue light indicates lamp is lit and the unit should be producing ozone. (Fig. 9)













WARNING: UV light produced by this unit is harmful to the eyes and may cause blindness! Do not look directly at a lit bulb!

# **CLEAR O3™ WATER PURIFYING SYSTEM**



### Item

SINGLE	UNII	
1.	004-402-3880-00	Clear O3™ Single A
2.	005-402-3834-00	Lamp
3.	005-402-3820-00	Mounting Brackets
4.	**	Ground Lug
5.	005-402-1384-00	Conduit Compressi
6.	**	Wiring Harness 3-\
7.	005-402-3361-00	Tubing with Check
<u>8.</u>	**	Compression
9.	**	Tubing 3/8" C
10.	**	Pump Mount (
<u>11.</u>	**	Wire Ties (4 p
12.	005-402-3247-00	Flow Meter Kit
13.	**	Anchor #10
14.	**	Screw: 10 x 3/4 P
15.	005-402-1050-00	Clear O3™ Adapter
16.	005-402-3824-00	Ballast & Filter
AIR BLE	ED KIT	
17.	006-402-3872-00	Clear O3™ Air Blee
18.	005-252-3250-00	Venturi Injector Kit

\* Not Shown

\*\* Not available to purchase individually

## WARRANTY INFORMATION



# **MAKING PLUMBING CONNECTIONS**

- **1.** Turn off power to the filtration system pump at the circuit breaker.
- 2. Pump strainer pot installation: (Fig. 10)
  - **2.1** Remove strainer pot plug. If there is an O-Ring on plug take O-Ring off of pot plug and slide over threaded end of check valve.
  - 2.2 Wrap the check valve four times with teflon tape and install into the strainer pot plug-hole. (Fig. 11)
  - 2.3 Install the combination needle valve flow meter on the bottom of the Clear O3™ unit. (Fig. 12)
  - **2.4** Install 3/8 OD x 1/4 ID tubing on barbed end of check valve (Fig. 10)
- 3. Pre-pump standpipe installation: (Fig. 14 & 15)
  - **3.1** Cut cap off standpipe.
  - 3.2 Glue a 3/4" elbow and a 3/4" x 1/4" NPT reducer bushing on end of standpipe.
  - **3.3** Install the threaded end of the check valve included in the reducer bushing.
  - **3.4** Install 3/8 OD x 1/4 ID tubing to barbed end of check valve. (Fig. 15)



#### Fig. 10











# MAKING PLUMBING CONNECTIONS (Cont.)

- 4. Lay the 3/8 tubing along desired route to the compression fitting on the combination needle valve flow meter on the Clear O3™ unit.
- 5. Connect the tubing to the compression fitting. (Fig. 16)
- 6. Use the provided wires ties to tie the loose tubing to the conduit or plumbing. (Fig. 17)





### **OPTIONAL SUBMERGED EQUIPMENT INSTALLATION**

New Installation using Paramount venturi installation kit.

TO COMPLETE THIS INSTALLATION YOU WILL NEED THE FOLLOWING ITEMS (NOT INCLUDED)

(2) 2" X 2" X <sup>3</sup>/<sub>4</sub>" SLIP TEE (1) <sup>3</sup>/<sub>4</sub>" X <sup>3</sup>/<sub>4</sub>" UNION BALL VALVE

- **1.** Install two  $2^n \times 2^n \times 3^{4^n}$  tees. One on the pipe coming from the pressure side and the other on the pipe coming from the suction side of the pool pump. (Fig. 1)
- 2. Plumb <sup>3</sup>/<sub>4</sub>" PVC from the pressure side tee into a union style ball valve. (Fig. 2A)
- Plumb 3/4" PVC from the ball valve into the inlet side of the venturi. (Fig. 2B) 3.
- Plumb <sup>3</sup>/<sub>4</sub>" PVC off the suction side tee into the outlet side of the venturi. 4. Note that the venturi must be horizontal and level. The flow arrow on the venturi body should point from the pressure side to the suction side of the pump. (Fig. 3)







PRESSURE SK

-2" X 7" X 30" SLIP TEE

Fig. 1

SUCTION SID

### **Converting Ballast Voltage to Alternate Setting**

- **1.** Turn off the power at the breaker and remove the unit from wall mounting
- **2.** With a Phillips screwdriver, remove the three (3) screws in the left end side cap, labeled electrical connections.(Fig. 29)
- **3.** Remove side cap by pulling out from the end of the unit.
- 4. Inside the open electrical housing, find the light bulb plug and pull it out about one inch. (Fig. 30)
- **5.** While holding the bulb, wiggle the plug to loosen from the bulb and pull it free from light bulb.(Fig. 31)
- 6. Pull the light bulb from the unit.
- 7. With a Phillips screwdriver, remove the two (2) screws inside the electrical housing next to the light bulb hole that connect the electrical housing to the aluminum housing.(Fig. 32)
- 8. While holding the aluminum housing, remove the electrical housing by pulling from the end of the unit. (Wires do not need to be disconnected.)
- 9. Inside the back cavity of the aluminum housing you will see the ballast and a nut holding the two ground wires in place.(Fig. 33)
- **10.** On the back of the unit nearest the open end, remove the flatheaded screw with a Phillips screwdriver while holding the lock nut on the inside of the cavity with pliers. (Fig. 34)
- **11.** Pull the ballast plate free from housing.
- **12.** On the side of the ballast is a switch to select voltage. Push the switch closest to the desired setting(120V or 240V) (Fig. 35)
- 13. Reassemble in reverse.
- **14.** Be sure to install ground wire connectors under lock nut, holding ballast in place.















## BULB REPLACEMENT (Cont.)

- Pull light bulb free from Clear O3™ unit. (Fig. 28) 6.
- Make sure gasket is in place on replacement light bulb. 7.
- Align with key and slide into hole until bulb seats firmly and completely into unit. (Fig. 29) 8.





- Press plug onto light bulb. 9.
- 10. Replace side cap and three screws.
- **11.** Turn on power to filtration system pump.
- **12.** Check glow tube on the left front of the Clear O3<sup>™</sup>. A light blue light indicates lamp is lit and the unit should be producing ozone.

## **TROUBLESHOOTING & SERVICE**

	ISSUE	SOLUTION
1.	No air bubbles entering system or pool	Clean filter then adjust airflow needle valve.
2.	Filter empties and pump loses prime	Replace check valve fitting at strainer pot.
З.	Light bulb does not light	Check power to Clear O3™, then replace bulb.

### **OPTIONAL SUBMERGED EQUIPMENT INSTALLATION** (Cont.)

- Note the correct direction of flow through the check valve. (Fig. 4)
- 6. Connect the tubing to the compression fitting. (Fig. 5)
- 7. Connect the compression fitting to the flow meter. (Fig 6)





- Clean filter and pump basket before setting airflow. 1.
- 2. Turn the knob on the needle valve/flow meter clockwise to close valve completely.
- 3. Turn on the power to the pump
- 4. lines on the flow meter. (Fig. 18)

NOTE: IF THE PUMP THAT THE CLEAR 03 UNIT IS INSTALLED ON IS A PUMP RUNNING A PARAMOUNT IN-FLOOR SYSTEM, lock the water valve on pause when the valve is switching ports and therefore at it's maximum flow (the pause control is located on top of the Paramount water valve). Set the flow meter so the ball is on the upper line of the Ideal range.

ON THE HIGHEST SPEED THAT WILL BE USED.



5. Install the 3/8" OD x  $\frac{1}{4}$  ID tubing on the barbed end of the venturi, with the check valve installed in-line.



# **SETTING AIR FLOW**

Turn the knob on the needle valve/flow meter counter clockwise until the ball reads in the middle of the two

#### NOTE: WHEN USING MULTIPLE SPEED PUMPS, SET THE FLOW METER WITH THE PUMP RUNNING





## External Safety Air Bleed Kit Instructions (optional)

Sometimes the internal air bleed on the filter is not sufficient to handle the extra air in the system with an ozonator installed. An External Safety Air Bleed Kit (006-402-3872-00) for in-ground swimming pools is available to remove excess air from the filter and send it downstream (up to 15') past all equipment. After installing always test per instructions that air is vented from the filter when the pump is running. You must install an external air bleed if the filter is old or does not have an internal air bleed, there is a solar system on the pool, there is a robotic pressure side cleaner.

#### **Mounting Instructions**

- 1. Turn off power to the pump.
- 2. Remove the pressure gauge from the filter.
- 3. Install the pressure gauge by threading into the end of the brass tee supplied.
- 4. Install the tubing compression fitting by threading into the side of the brass tee.
- 5. Install the tee assembly by threading into the hole you removed the pressure gauge (#1).
- 6. Insert one end of the tubing into the compression fitting (#2).
- 7. Turn on power to the pump and check that air is coming from the other end of the tubing.
- 8. Turn off power to the pump.
- 9. Pick a spot on the return pipe downstream of all other devices (heater, chlorinator, pressure cleaner, etc.)
- 10. Drill a 7/16" hole through the return pipe at the location selected.
- 11. Install the saddle clamp with the fitting over the hole. Make sure the gasket is in place between the fitting and the pipe. (#4)
- 12. Lay the tubing along the return pipe to the saddle clamp fitting and cut off excess length.
- 13. Connect the end of the tubing to the compression fitting on the saddle clamp (#3). The tubing can be secured to the pipe using cable ties (not included).



External Safety Air Bleed Kit



Installation of External Safety Air Bleed Kit

# **BULB REPLACEMENT**

#### NOTE:

Ozone production from direct UV light will decline over time. UV bulbs continue to illuminate after they stop producing an effective level of ozone to clean your pool water. To make sure your pool continues to receive all the benefits of ozone, Paramount recommends that you replace your bulb every three (3) years.



### WARNING:

at a lit bulb!

- breaker.
- "electrical connections". (Fig. 24)





• Turn off power at main source before making any electrical connections or servicing the unit. • UV light produced by this unit is harmful to the eyes and may cause blindness! Do not look directly