

RESIDENTIAL POOL

Natural Pool Water Treatment

EcoMaster - Residential Pools up to 40,000 Gallons

INSTALLATION/ OPERATION GUIDE



T-O₃ NATURAL TECHNOLOGY

Reduces Chemical Usage,
Improves Sanitation
Produces Crystal Clear Water

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IMPORTANT SAFETY INSTRUCTIONS

Read and Follow All Safety Instructions

- Read and be familiar with this manual before installing or operating your new Eco Master.
- Voltage must be determined before unit is installed.
- If cord becomes damaged replace immediately.
- Do not bury cord.
- Connect only to a properly grounded, grounding type receptacle.
- Install at least 5 feet from the inside wall of the pool using non-metallic plumbing. The ozone generator is to be located one foot above the maximum water level to prevent water from contacting electrical equipment. Install to provide drainage of compartment for electrical components.
- Wear safety glasses when drilling and tapping holes for installation of unit.

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

	WARNING: Disconnect all power to pool equipment prior to installation, maintenance, or removal of the Eco Master.
	WARNING: Do not permit children to operate this product
	WARNING: To avoid risk of electric shock, fire, or injury, service should only be performed by a qualified pool service professional.
	WARNING: Installation must be performed in accordance with the National Electric Code and any applicable local or state installation codes.
	WARNING: When mixing acid with water, ALWAYS ADD ACID TO WATER, NEVER WATER TO ACID.

NOTE: The instructions in this document provide general installation guides. Consult your dealer for specific installation instructions. Additional information is available at www.prozoneint.com. Check system for any visible shipping damage. If damage has occurred, contact the delivery company and your dealer immediately. Before beginning installation, please turn to the Installation Kit Inventory Section and verify that all listed parts are on hand.

Tools Needed: Power Drill with 7/8" hole saw, Screw Driver, Pliers, Knife

SAVE THESE INSTRUCTIONS

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INTRODUCTION TO ADVANCED OXIDATION PROCESSING

The EcoMaster system produces Ozone when air is drawn across a hybrid UV and VUV lamp, converting air to Ozone and Hydroxyls. A Dynamic Venturi Injector is inserted on the return line, by-passing water back into the return line of the pool which creates suction that draws the Ozone and Hydroxyls from the hybrid lamp chamber. The static mixer combines water, Ozone, and Hydroxyls in a scrambled flow. Water is then irradiated by Germicidal UV-C, which converts Ozone to Hydroxyl Radicals and Peroxides through Advanced Oxidation Processing. Contaminates are destroyed by intense Germicidal UV-C, Ozone and Hydroxyl Radicals, using up the Ozone and adding Oxidation Reduction Potential and residual sanitation to the water returned to the pool.

It is operated automatically by connecting the Prozone system directly to the circulation pump or plugging into a timer. A check valve is employed to prevent water back up in the event of system failure. A siphon loop is recommended for added backpressure resistance. The system should run 8-12 hours per day for good results; 24 hours per day for optimum water clarity and minimum chemical usage.

Although Advanced Oxidation Processing (AOP) is mainly thought of as a sanitizer, it acts primarily as an oxidizer in the pool environment. In a typical pool, using Chlorine only, up to 90 percent of the Chlorine may be used up in reactions unrelated to disinfection. The byproducts of these reactions are Combined Chlorines. Combined chlorines are the cause of eye irritation, odor, and the other unpleasant side effects of Chlorination. When AOP is used, it oxidizes a large portion of the contaminants (usually referred to as bather load) which results in the formation of Combined Chlorines. The result is that more Chlorine is available for disinfection and less Chlorine is required to maintain the pool. Ozone also provides some disinfection, but an Ozone residual cannot be established, so the use of Chlorine or Bromine is always recommended. Baquacil may also be used in conjunction with the Prozone system for water sanitation. Refer to the Baquacil manual for shocking instructions.

PREPARING FOR INSTALLATION

1. Check for and correct all leaks in plumbing.
2. Balance the pH.
3. Backwash the filter on retrofit installation.
4. Shock the pool. The use of Calcium Hypochlorite is recommended, or hydrogen peroxide if Baquacil is used.
5. **CAUTION:** Make sure voltage is the same as prescribed on the side of the Prozone Ozone Generator.

WATER CHEMISTRY

The table below summarizes the levels that are recommended by The Association of Pool and Spa Professionals (APSP). It is important to maintain these levels in order to prevent corrosion or scaling and to ensure maximum enjoyment of the pool. Test your water periodically. Take a water sample in to be professionally tested by a Pool and Spa Professional at least once a month. See our web site for more information on Basic Pool Water Chemistry.

pH	7.2 - 7.6
Alkalinity	80 - 120 ppm
TDS	< 1,000
Cyanuric Acid	30 - 70 ppm

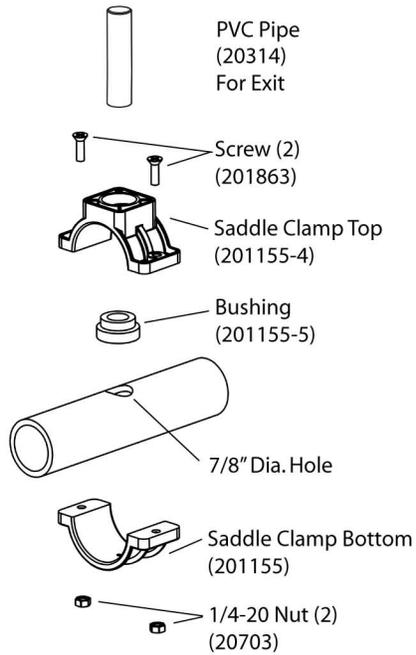
Free Chlorine	0.5 - 1.5 ppm
Calcium Hardness	60 - 400 ppm
Metals	0 ppm
Nitrates / Phosphates	< 30 ppm

TROUBLESHOOTING GUIDE

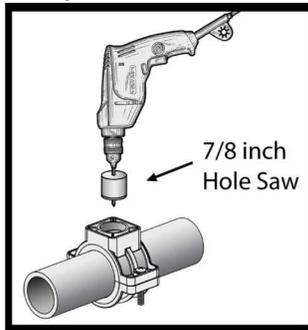
PROBLEM	PROBABLE CAUSE	REMEDY
No light from Prozone unit	Loose wiring	Check all wiring connections
	No power to unit	Check voltage compatibility Check power source
	Defective lamp or other internal component	Return unit to dealer
No bubbles from Injector or Return Line Outlet in pool	Excessive back pressure	Check for kinks or clogs in hose or plumbing
	Leak in fitting	Replace fitting
	Filter not working	Check filter
Water in Ozone Generator	Excessive Backpressure on Ozone feed line	Verify adequate pressure differential Remove restrictions after Ozone line return (exit)
Cloudy water; foamy water; scum	Water chemistry out of balance	Check readings and balance accordingly
	Total Dissolved Solids (TDS) level too high	Refer to dealer for proper water testing
	Filter not working	Clean or replace filter and/or media

Note: For 2" pipe, do not use 1½" adapters and gasket and turn Bushings so small end points toward Injector (for Entrance) or PVC Pipe (for Exit).

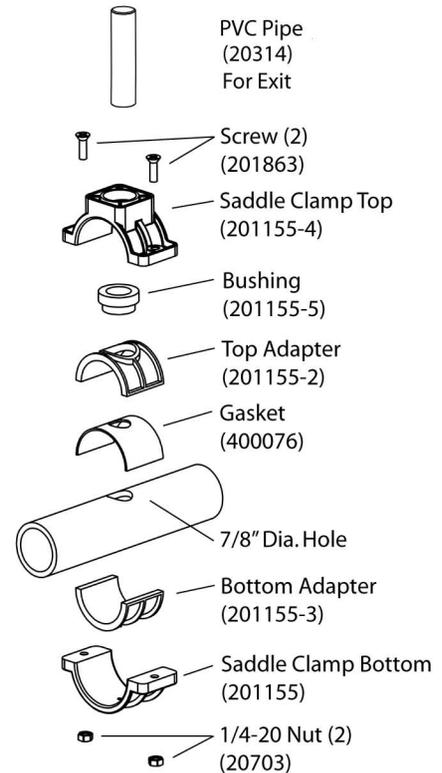
Saddle Clamp Assembly for 2" Pipe



Requires 7/8" Hole Saw



Saddle Clamp Assembly for 1½" Pipe

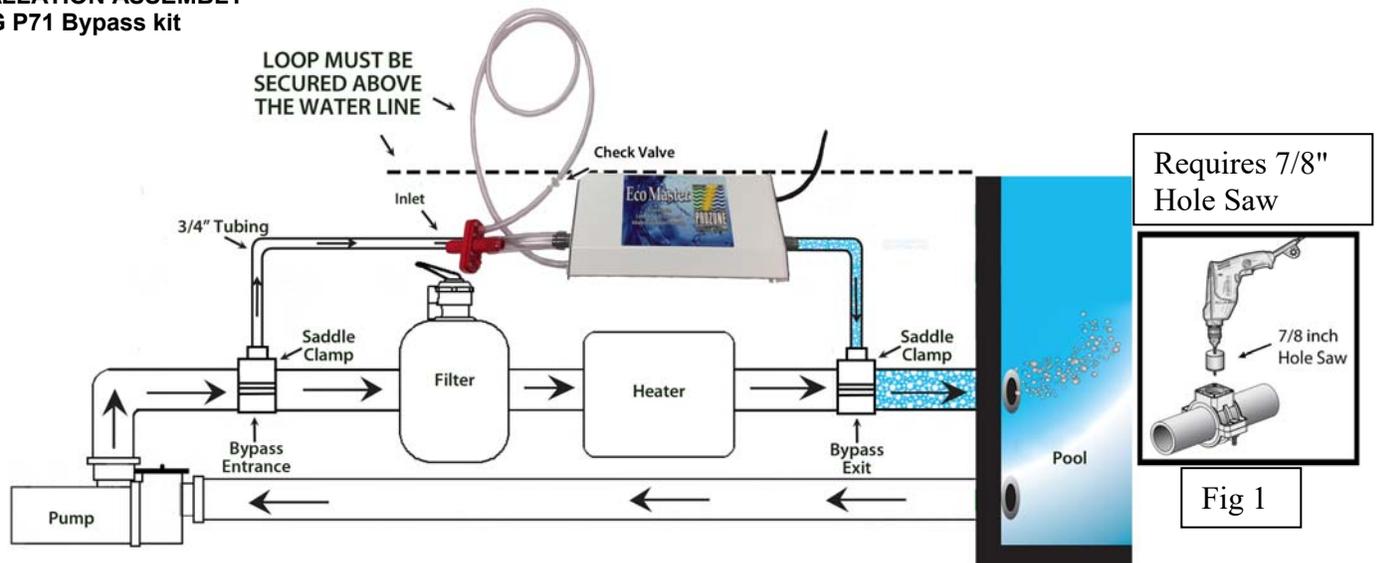


P71 Saddle Clamp Installation Kit

Description	Part Number	Quantity
784 Venturi Injector	600002	1
Plastic Clamp ½"	20185	4
Metal Clamp 1¼"	20067	2
Polybraid Hose ¼"	20260	72"
Clear Vinyl Hose ¾"	20264	96"
Check Valve	20214	1
PVC Pipe ½" x 3"	20314	1
Screw # 8 x ¾" PPSMS	20109	4
Saddle Clamp, Outer Top	201155-4	2
Saddle Clamp, Outer Bottom	201155	2
Saddle Clamp, Inner Top	201155-2	2
Saddle Clamp, Inner Bottom	201155-3	2
Saddle Clamp Gasket	400076	2
Saddle Clamp Bushing	201155-5	2
Screw #14 x 1½" PPMS	201863	4
Nut ¼-20	20703	4

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INSTALLATION ASSEMBLY USING P71 Bypass kit



1. Turn pump OFF. Ensure line restrictions between filter/heater and pool returns are removed.
2. Locate section of existing plumbing in which you choose to install the ENTRANCE leg of the bypass. Location should be in any accessible area after the pump, but before the filter.
3. Mount Saddle Clamp Top & Bottom assembly without Bushing, (this will be used as a guide for your installation hole). Note: If pipe is 1 1/2", saddle adapters will be used. (See Fig 1)
4. Drill a 7/8" hole through one wall of the pipe, using power drill, being careful not to drill too deep to avoid penetrating the opposite side of the plumbing.
5. Locate section of existing plumbing in which you choose to install the EXIT leg of the bypass. Location should be in any accessible area after the filter and heater (if equipped).
6. Repeat steps 3 & 4.
7. Remove both Saddle Clamp Assemblies.
8. Using components listed, install first Saddle Clamp Assembly on Exit bypass location with the 1/2" x 3" PVC pipe mounted in the Saddle Clamp Bushing. Tighten both screws for compression seal, glue is not required for a water tight seal.
9. Using components listed, install the second Saddle Clamp Assembly on Entrance bypass location with the 1/2" x 3" PVC pipe mounted in the Saddle Clamp Bushing. Tighten both screws for compression seal.
10. Cut a 6" piece of 3/4" hose and secure it to the Injector Outlet with a 1 1/4" Metal Hose Clamp.
11. Attach the other end of this hose to the ECOMASTER with a 1 1/4" Metal Hose Clamp.
12. Mount the ECOMASTER on a wall or surface at least 1 foot above maximum water level (as seen above) to prevent water from contacting the electrical equipment. **Unit orientation should be mounted horizontally.** Select a location that is accessible to the entrance and exit locations chosen in steps 2 & 4.
13. Connect 3/4" Hose to the end to the fitting on the ENTRANCE side of the bypass, (after the pump, before the filter), and secure with a 1 1/4" Metal Hose Clamp.
14. Connect the other end of the hose to the INLET side of the Injector and secure with a 1 1/4" Metal Hose Clamp.
15. Attach one end of the remaining 3/4" hose to the OUTLET side of the ECOMASTER and secure with a metal clamp.
16. Attach other end of 3/4" hose to the fitting on the EXIT side of the bypass, (after the filter/heater), and secure with a 1 1/4" Metal Clamp.
17. Cut a 6" length of 1/4" Polybraided Hose and connect one end to the open ozone port (Marked #1) on the Venturi Injector and the other end to the OUTLET side of the Check Valve, (Make sure you can blow air through the Check Valve towards the Injector port). Secure both ends with black plastic clamps.
18. Connect the remaining section of 1/4" Polybraided Hose to the INLET side of the Check Valve and the other end to the barb on the side of the ECOMASTER. Secure both ends with black plastic clamps. Route the 1/4" Polybraided Hose as shown in the above diagram and verify that it is above the Water Line
19. Electrical Installation: Your Prozone ECOMASTER System is designed to operate on either 120 or 240 VAC, 50/60 HZ. Wire Prozone Ozone Generator system to circulation pump switch or timer. Prozone system and circulation pump should be started simultaneously. Use N.E.C. or local code grounding and installation procedures for swimming pool equipment.
20. **There should be no more than 10 PSI of pressure at the bypass exit of the return line.**

NOTE Regarding Ball Valves: If your filtration system uses a Diatomaceous Earth (DE) or cartridge filter, install a 3/4" Ball Valve (not included) in the 3/4" Hose on the output side of the 1/2" x 3" PVC. This allows the bypass to be closed when back flushing or adding DE. If adequate pressure differential cannot be achieved with traditional by-pass, it may be necessary to install a Ball Valve (not included) in the main line between the Entrance and Exit of the bypass, (entire installation is moved after filter or heater if equipped). The Ball Valve will need to be adjusted to ensure adequate flow through the bypass. Ball valve should never be closed completely, which may damage the system.

PROZONE® Advanced Oxidation Purification Products LIMITED WARRANTY

Warranty is offered on this unit for a period of 24 months from date of purchase, and extends only to the original purchaser. If this unit becomes unserviceable due to defects in materials or workmanship within 24 months from date of purchase, it will be repaired or replaced without charge. Warranty does not apply to breakage due to obvious misuse. Warranty period for a repaired or replaced unit applies to the original date of purchase of the unit. Manufacturer will repair or replace based on evaluation of returned unit.

In order to receive warranty service, a Returned Goods Authorization (RGA) number must be obtained from Prozone before returning the product. The RGA number must be issued prior to end of warranty period. Product must be returned within 30 days of issuance of the RGA number. If the product is not received by Prozone within 30 days of RGA number issuance, another RGA number must be obtained.

This warranty along with the sales receipt must accompany the unit when it is returned. The RGA number must be printed prominently on the bottom left corner of the address side of the return packaging. To obtain an RGA number, or for any questions regarding warranty service, please contact:

PROZONE WATER PRODUCTS	Email: sales@prozoneint.com
3004 11th Ave.	Tel: 256-539-4570
Huntsville, AL 35805	Fax: 256-539-4225

This warranty is void if the unit has been opened, or if the product identification label has been removed or altered. This warranty does not cover damage resulting from misuse, abuse, accident, fire, flood, lightning or other acts of nature, lack of reasonable care, or subjecting the product to any but the specified voltage.

Under the terms of the warranty, manufacturer assumes no responsibility for any injury, loss or damage (direct, indirect, or consequential) arising out of the use of or inability to use the product. Manufacturer assumes no responsibility for labor involved in removal of defective part, shipping or installation of new part. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty is in lieu of all other warranties, expressed or implied.

RETURNS WITHOUT AN RGA NUMBER WILL BE REJECTED

PLEASE COMPLETE THIS WARRANTY ON THE DAY OF INSTALLATION AND RETURN TO:

PROZONE WATER PRODUCTS

3004 11TH AVE, HUNTSVILLE, AL 35805

Failure to return this warranty information will void this warranty

Date of purchase: _____ Purchased from: _____
Supplier Telephone No.: _____ Model Number _____
Date of installation: _____ Installed by: _____
Name: _____ Telephone No.: _____
Address: _____ City: _____
State: _____ Zip: _____ Email: _____
Residential application: _____