

# RESIDENTIAL POOL

## Natural Pool Water Treatment

**PZ7** - Residential Pools up to 40,000 Gallons  
*Ozone Generator Systems*

*INSTALLATION GUIDE and  
OPERATION MANUAL*



**T-O<sub>3</sub> 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 PZ7.
- Voltage must be determined before unit is installed.
- Replace damaged cord 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 PZ7.



**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](http://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

### INTRODUCTION TO OZONE

The Prozone system produces ozone when air is drawn across a special high-energy vacuum ultraviolet (VUV) lamp, converting some air to ozone. A 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 into the venturi, mixing the bubbles as the water returns 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 ozone 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 ozone 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.

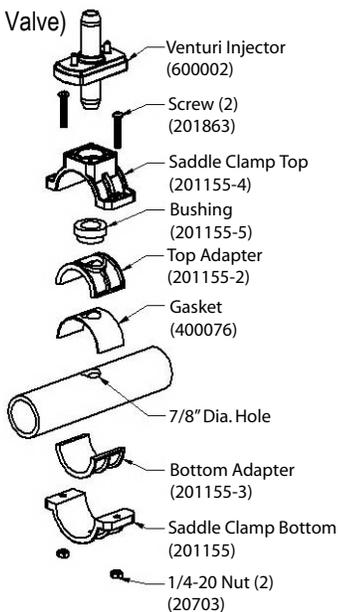
The Table below summarizes the levels that are recommended by The Association of Pool and Spa Professionals (APSP). It is important to maintain these levels in order to prevent corrosion or scaling and to ensure maximum enjoyment of the pool. Test your water periodically. Take a water sample in to be 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

### SADDLE CLAMP ASSEMBLY

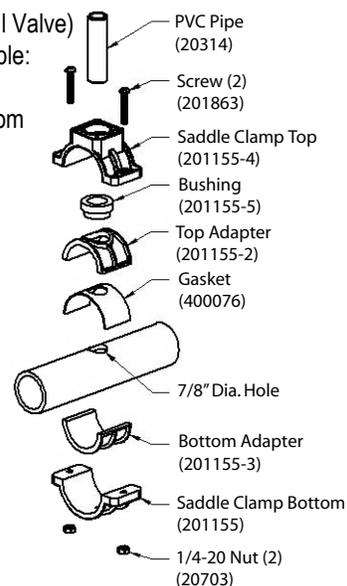
For bypass Entrance, (before Ball Valve)

Using 1-1/2" pipe, Assemble:  
Venturi Injector (Note direction)  
Saddle Clamp Top & Bottom  
Top & Bottom Adapters  
Bushing (Note direction)  
Gasket  
Screws (2)  
Nuts (2)



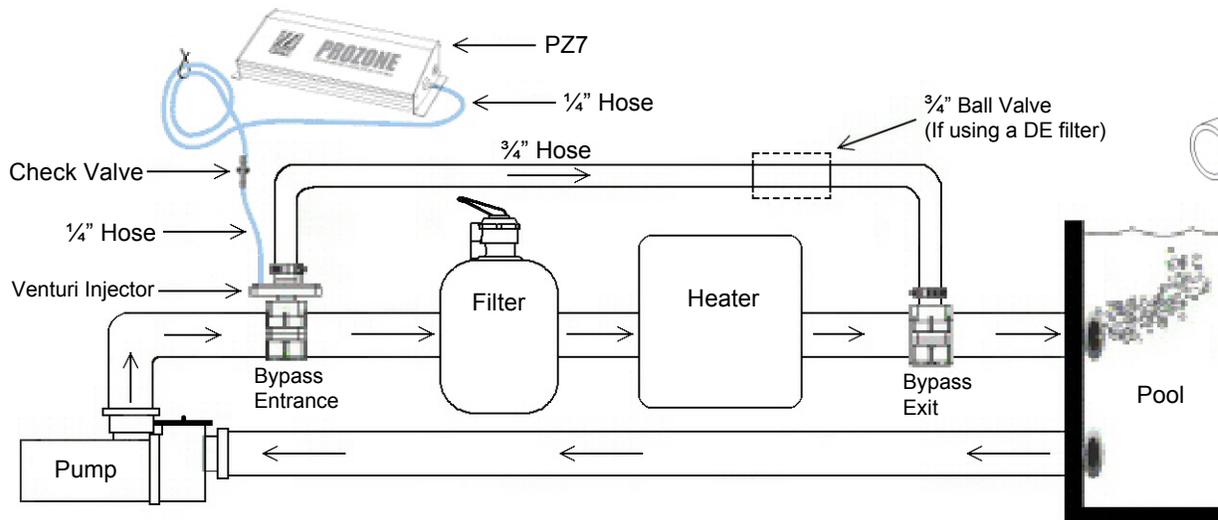
For bypass Exit, (after Ball Valve)

Using 1-1/2" pipe, Assemble:  
PVC Pipe  
Saddle Clamp Top & Bottom  
Top & Bottom Adapters  
Bushing (Note direction)  
Gasket  
Screws (2)  
Nuts (2)



**Note: For 2" pipe, do not use 1-1/2" adapters and gasket and turn Bushings so small end points toward Injector (for Entrance) or PVC Pipe (for Exit).**

### INSTALLATION ASSEMBLY USING P15 SADDLE CLAMP KIT

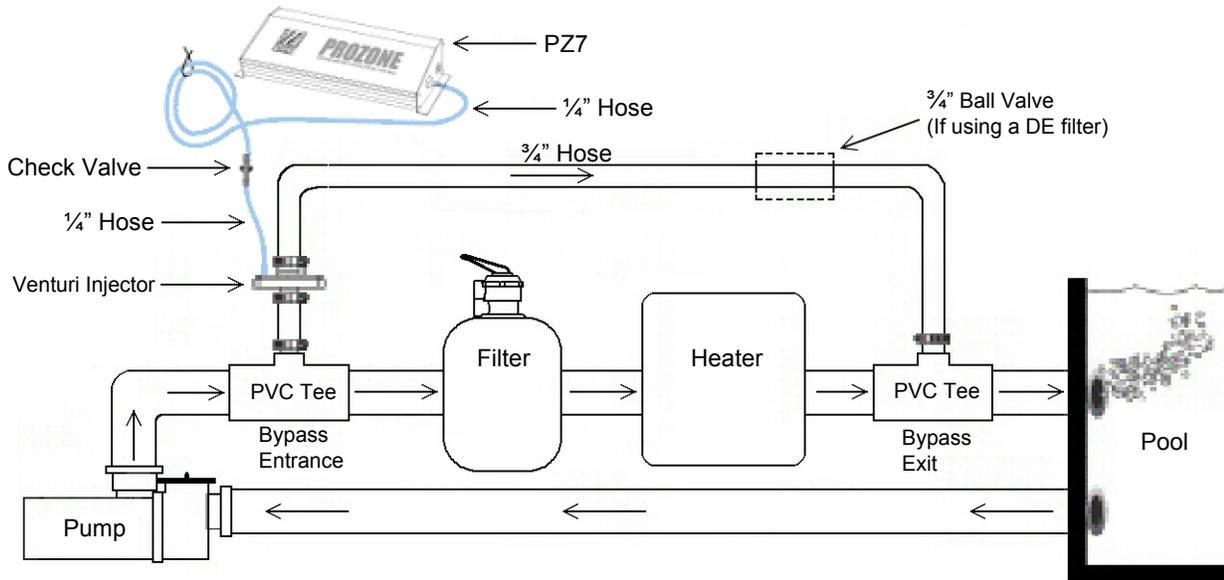


1. Turn pump OFF.
2. Locate section of existing plumbing in which you choose to install the ENTRANCE leg of the bypass. Location should be in any accessible area after the pump, but before the filter.
3. Install Saddle Clamp Top & Bottom, (and adapters if needed), without Bushing, (this will be used as a guide for your installation hole).
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, mount one Saddle Clamp Assembly on Entrance bypass location with the INLET side of the Venturi Injector mounted in the Saddle Clamp Bushing, (ozone ports should be facing upward). Tighten both screws.
9. Using components listed, mount the other Saddle Clamp Assembly on Exit bypass location with the 1/2" x 3" PVC pipe mounted in the Saddle Clamp Bushing. Tighten both screws.
10. Attach one end of 3/4" clear hose to Venturi Injector and secure with a metal clamp. Attach other end of 3/4" clear hose to 1/2" x 3" PVC pipe and secure with a metal clamp.
11. Mount the PZ7 Ozone Generator on a wall or surface at least 1 foot above maximum water level to prevent water from contacting the electrical equipment. Unit orientation will not affect performance.
12. 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.
13. 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 PZ7 Ozone Generator. Secure both ends with black plastic clamps.
14. Electrical Installation: Your Prozone PZ7 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.

NOTE: 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 Venturi Injector as shown. This allows the bypass to be closed when back flushing or adding DE. 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.

CAUTION: Make sure the voltage is the same as prescribed on the side of the Prozone ozone generator. Overvoltage will void customer warranty.

**INSTALLATION ASSEMBLY USING  
P11 PVC TEES KIT**



1. Turn pump OFF.
2. Locate section of 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. Install a PVC Tee that has  $\frac{3}{4}$  FPT, with the threaded portion of the Tee facing upward.
4. Locate section of 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).
5. Install a PVC Tee that has  $\frac{3}{4}$  FPT, with the threaded portion of the Tee facing upward.
6. Apply Teflon tape to the threads of the (2)  $\frac{3}{4}$ " MPT x  $\frac{3}{4}$ " HB fittings, part number 20678, and screw the fittings into the (2) PVC Tees you installed in steps 3 and 5.
7. Cut a 6" length of  $\frac{3}{4}$ " hose and connect one end to the fitting on the ENTRANCE side of the bypass, (after the pump, before the filter), and secure with a metal clamp.
8. Connect the other end of the 6" hose to the INLET side of the Venturi Injector and secure with a metal clamp. Attach one end of the remaining  $\frac{3}{4}$ " hose to the OUTLET side of the Venturi Injector and secure with a metal clamp.
9. Attach other end of  $\frac{3}{4}$ " hose to the fitting on the EXIT side of the bypass, (after the filter/heater), and secure with a metal clamp.
10. Mount the PZ7 Ozone Generator on a wall or surface at least 1 foot above maximum water level to prevent water from contacting the electrical equipment. Unit orientation will not affect performance.
11. Cut a 6" length of  $\frac{1}{4}$ " 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.
12. Connect the remaining section of  $\frac{1}{4}$ " Polybraided Hose to the INLET side of the Check Valve and the other end to the barb on the side of the PZ7 Ozone Generator. Secure both ends with black plastic clamps.
13. Electrical Installation: Your Prozone PZ7 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.

**NOTE:** If your filtration system uses a Diatomaceous Earth (DE) or cartridge filter, install a  $\frac{3}{4}$ " Ball Valve (not included) in the  $\frac{3}{4}$ " Hose on the output side of the Venturi Injector as shown. This allows the bypass to be closed when back flushing or adding DE. 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.

**CAUTION:** Make sure the voltage is the same as prescribed on the side of the Prozone ozone generator. Overvoltage will void customer warranty.

## INSTALLATION KIT INVENTORY

### P15 Saddle Clamp Installation Kit

Description	Part Number	Quantity
684 Venturi Injector	600002	1
Plastic Clamp 1/2"	20185	4
Metal Clamp 1 1/4"	20067	2
Polybraid Hose 1/4"	20260	72"
Clear Vinyl Hose 3/4"	20264	96"
Check Valve	20214	1
PVC Pipe 1/2" x 3"	20314	1
Screw # 8 x 3/4" 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 1 1/2" PPMS	201863	4
Nut 1/4-20	20703	4

### P11 PVC Tees Installation Kit

Description	Part Number	Quantity
684 Venturi Injector	600002	1
Plastic Clamp 1/2"	20185	4
Metal Clamp 1 1/4"	20067	4
Polybraid Hose 1/4"	20260	72"
Clear Vinyl Hose 3/4"	20264	96"
Check Valve	20214	1
PVC Fitting 2" SL x 3/4" FPT	201095	2
PVC Fitting 2" SP x 1 1/2" SL	201114	4
PVC Fitting 3/4" MPT x HB	20678	2
Screw # 8 x 3/4" PPSMS	20109	4

## 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 no evidence of ozone 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	Check Valve failure	Verify Check Valve in Venturi is operating properly
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

NOTE: Cloudy water may occur when the ozone generator is started. Filter and backwash as necessary.