

RESIDENTIAL POOL

Natural Pool Water Treatment

PZ4 - Residential Pools up to 15,000 Gallons
Ozone Generator Systems

*INSTALLATION GUIDE and
OPERATION MANUAL*



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 PZ4.
- 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 PZ4.



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

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.

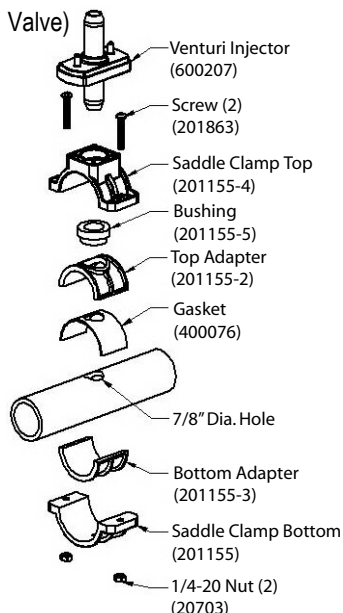
The Table below summarizes the levels that are recommended by The Association of Pool and Spa Professionals (APSP). It is important to maintain these levels in order to prevent corrosion or scaling and to ensure maximum enjoyment of the pool. Test your water periodically. Take a water sample in to be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

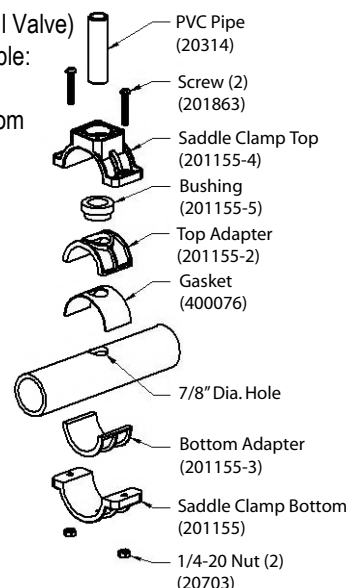
For bypass Entrance, (before Ball Valve)

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)



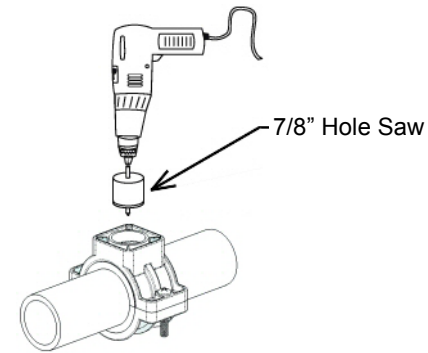
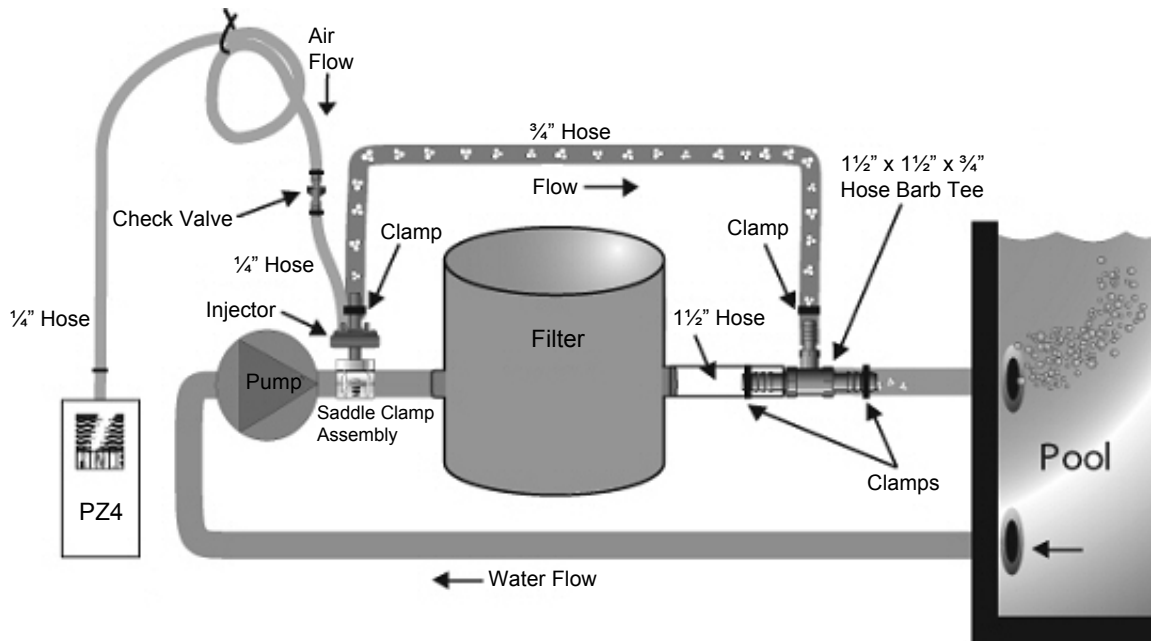
For bypass Exit, (after Ball Valve)

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).

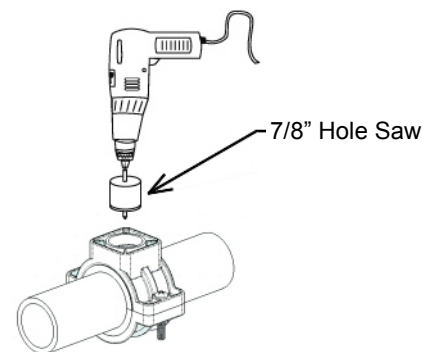
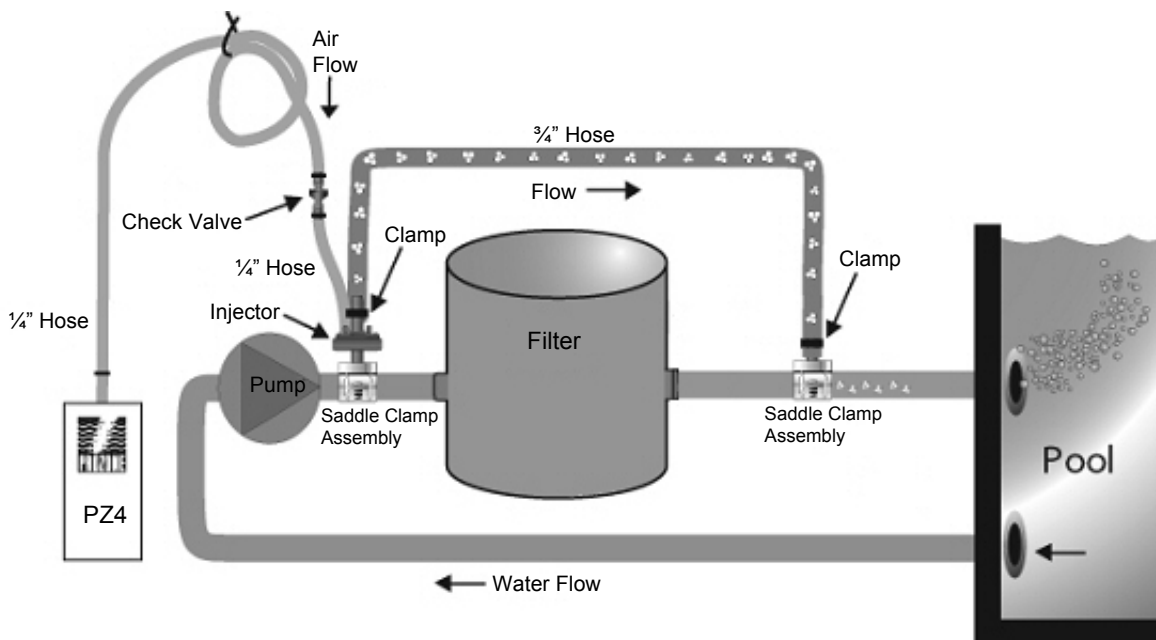
INSTALLATION ASSEMBLY USING PZ4 STANDARD ABOVE GROUND KIT



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. Remove the Saddle Clamp Assembly.
6. Using components listed, mount the 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), and tighten both screws.
7. Place 1 1/2" Polybraided Tubing over the 1 1/2" barb on the OUTLET side of the filter, (remove existing hose if necessary).
8. Place one end of the 1 1/2" PVC Tee into the 1 1/2" Polybraided hose and the other end into the system tubing which was removed from the filter. Secure both ends of the 1 1/2" Hose with the large metal hose clamps.
9. Attach one end of 3/4" Clear Hose the Venturi Injector and secure with a metal clamp. Attach other end of the 3/4" Clear Hose to the 3/4" barb on the PVC Tee and secure with a metal clamp.
10. 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.
11. 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 top of the PZ4 Ozone Generator. Secure both ends with black plastic clamps.
12. Install the PZ4 Ozone Generator on base of pump pack using the metal screws and washers.
13. Connect the PZ4 Ozone Generator system to the circulation pump or timer. The Prozone system and the circulation pump should start simultaneously. Use N.E.C. or local code grounding and installation procedures for swimming pool equipment.

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 P15 STANDARD IN-GROUND 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).
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.
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. Cut a 6" length of 1/4" Polybraid 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 1/4" Polybraid Hose to the INLET side of the Check Valve and the other end to the barb on top of the PZ4 Ozone Generator. Secure both ends with black plastic clamps.
13. Install the PZ4 Ozone Generator on base of pump pack using the metal screws and washers.
14. Connect the PZ4 Ozone Generator system to the circulation pump or timer. The Prozone system and the circulation pump should start simultaneously. Use N.E.C. or local code grounding and installation procedures for swimming pool equipment.

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

P24 Installation Kit PZ4 Standard Above Ground Pool

Description	Part Number	Quantity
684 Venturi Injector	600002	1
Plastic Clamp 1/2"	20185	4
Metal Clamp 1-1/4"	20067	2
Metal Clamp 2"	20069	2
Polybraid Hose 1/4"	20260	72"
Clear Vinyl Hose 3/4"	20264	72"
Polybraid Hose 1 1/2"	201828	6"
Check Valve	20214	1
PVC Fitting 1 1/2" x 1 1/2" x 3/4" HB	201141	1
Screw #8 x 3/4" PPSMS	20109	3
Washer #10	20085	3
Wire Tie 6"	20728	3
Saddle Clamp, Outer Top	201155-4	1
Saddle Clamp, Outer Bottom	201155	1
Saddle Clamp, Inner Top	201155-2	1
Saddle Clamp, Inner Bottom	201155-3	1
Saddle Clamp Gasket	400076	1
Saddle Clamp Bushing	201155-5	1
Screw #14 x 1-1/2" PPMS	201863	2
Nut 1/4-20	20703	2

P15 Installation Kit PZ4 Standard In-Ground Pool

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

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.