HAYWARD®

HydraPure™

»»» Advanced Oxidation Sanitization System

THE CLEANEST, SAFEST WATER FOR NEW AND EXISTING POOLS

EXPERT LINE™ | ONLY FROM POOL PROS | 3+ YEAR PARTS & LABOR WARRANTIES*

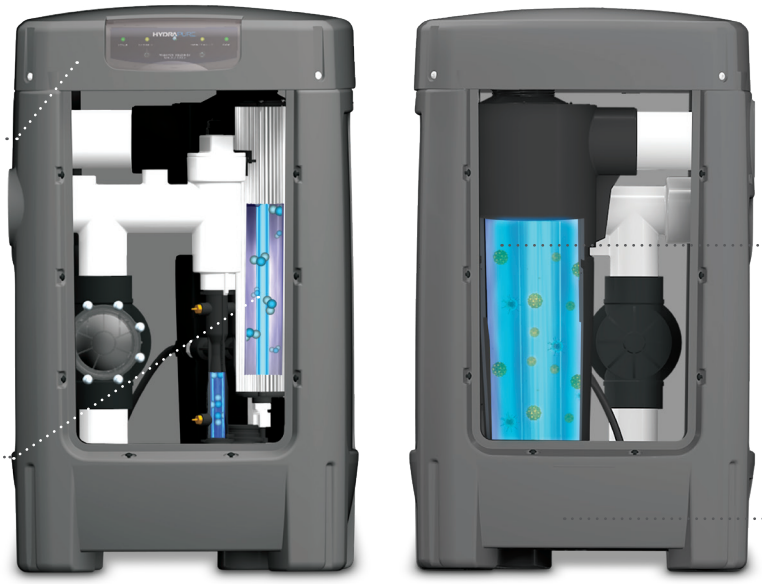
*When sold by a Totally Hayward® partner. Exclusions, other terms and conditions may apply — visit hayward.com/expert for details.

SUPERIOR ALL-IN-ONE SANITIZATION WITH UV, OZONE AND HYDROXL RADICALS.

Improve any new or existing pool's sanitization capabilities with the 3-in-1 power of HydraPure.™ By combining the germicidal properties of UV with the oxidative power of ozone to form hydroxyl radicals—one of the most potent oxidizers known to man—HydraPure effectively destroys 99.9%* of chlorine-resistant microorganisms in pool water. And with an intelligent, all-in-one design that operates efficiently at 10-120 gpm, pool owners get the cleanest water at any flow rate.

Rotatable lid makes control-panel access easy from any angle

Ozone inactivates organic compounds and stops chlorine byproducts from forming



UV inactivates microorganisms with germicidal properties and combines with ozone to create a third sanitizing oxidant, **hydroxyl radicals**

Advanced performance capability operates at both very low and very high flow rates, offering lower head loss at all flow rates without requiring a bypass

INCOMPARABLE WATER QUALITY

HydraPure not only provides an added layer of sanitization—it reduces irritating chloramines for softer, gentler water.

LESS CHLORINE MAINTENANCE

UV, ozone and hydroxyl radicals reduce the amount of chlorine required for effective sanitization.

FITS IN EASILY—ANYWHERE

All-in-one design makes HydraPure simple to install, and a rotatable control panel with notification lights makes maintenance easy, too.

HYDRAPURE SYSTEMS

PART NUMBER	DESCRIPTION	LIMITED WARRANTY
004952001000	HydraPure UV and Ozone System, Corded, 120V	3 years**
004952002000	HydraPure UV and Ozone System, Hardwired, 120V/240V	3 years**

WHY CHOOSE ADVANCED OXIDATION

	Chemical Residual	Disinfection	Oxidation	Reduces Chloramines
Chlorine	✓	✓	✓	
UV		✓		✓
Ozone		✓	✓	✓
Advanced Oxidation (AOP)		✓+	✓+	✓

*Destroys 99.9% of chlorine-resistant microorganisms up to 80 GPM, with a reduced level above 80 GPM.

** 3-year parts and labor warranty and 1-year warranty on lamps when purchased from a Totally Hayward® Partner.

» hayward.com/hydrapure » 1-888-HAYWARD

Pumps » Filters » Heaters » Cleaners » Sanitization » Automation » Lighting » Water Features » White Goods

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HydraPure

2½ inch Residential AOP System

Owner's Manual

Contents

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HYDRAPURE

Hayward Industries
400 Connell Drive, Suite 6100
Berkeley Heights, NJ 07922
Phone: (908) 355-7995
www.hayward.com

IMPORTANT SAFETY INSTRUCTIONS

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

- READ AND FOLLOW ALL INSTRUCTIONS
- **WARNING:** Follow all applicable electrical codes.
- **WARNING:** Turn off power at main source before making any electrical connections or servicing the unit.
- **WARNING:** To reduce the risk of electric shock, injury or death disconnect unit from power supply.
- **WARNING:** Follow the instructions or risk of serious injury or death could occur!
- **WARNING:** To reduce risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- **WARNING:** Risk of electric shock. Install at least 5 feet (1.5m) from inside wall of pool, hot tub or spa using nonmetallic plumbing.
- **WARNING:** This product shall only be connected to a power supply receptacle protected by a ground fault circuit interrupter.
- **DANGER:** Replace damaged cord immediately.
- **DANGER:** Do not bury cord.
- **DANGER:** Connect to a grounded, grounding type receptacle only.

UV EXPOSURE & PROTECTION: UV-A and UV-B radiation can have adverse short and long term effects on the eyes and skin. Never look directly at a UV lamp that is connected to a power source. Avoid UV skin exposure at all times.

SAVE THESE INSTRUCTIONS

Signal Words and Symbols Used In This Manual

This Owner's Manual and Installation Guide contains specific precautions and symbols to identify safety-related information. You will find DANGER, CAUTION, WARNING and NOTICE symbols which require special attention. Please read them carefully and follow these precautions as indicated! They will explain how to avoid hazards that may endanger you or persons using or maintaining your pool or spa.

PLEASE REVIEW THE OWNER'S MANUAL AND INSTALLATION GUIDE IN ITS ENTIRETY AND HEED ALL SAFETY INFORMATION. Failure to follow these instructions and warnings can result in DEATH OR SERIOUS INJURY.

- **DANGER:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **CAUTION:** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
- **WARNING:** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **NOTICE:** Is used to address practices not related to physical injury.

SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

For the most current version of this install manual go to:
www.hayward.com

READ AND FOLLOW ALL IMPORTANT SAFETY INSTRUCTIONS
When installing and using this electrical equipment, basic safety precautions should always be followed, including the following: This product should be installed by a professional service technician or similar person who is qualified in electrical equipment installation. Improper installation and/or operation could cause serious personal injury, property damage or death. Improper installation and/or operation will void the warranty.

The device must be connected only to a supply circuit that is protected by a Ground Fault Circuit Interrupter (GFCI). FAILURE TO CONNECT THIS DEVICE TO A GFCI SUPPLY CIRCUIT COULD RESULT IN ELECTRICAL SHOCK CAUSING SERIOUS BODILY INJURY, INCLUDING DEATH. Disconnect all AC power before installation and servicing. To prevent possible fire or electrical shock, use only replacement lamp specified by the manufacturer. A bonding lug is provided on the external surface. To reduce the risk of electric shock, connect the local common bonding grid in the area of the swimming pool, spa, or hot tub to these terminals with an insulated or bare copper conductor not smaller than 8 AWG US / 6 AWG Canada. Replace damaged cords immediately. Lamps and quartz sleeves are made of glass and are extremely delicate. Care should be taken when handling or replacing these components.

This device is for swimming pool use only. Do not use this device for potable (drinking) water sanitization. Use of this product in applications other than swimming pools and spas will void your warranty and could be harmful to your health or the health of others.

CAUTION : ULTRAVIOLET RADIATION. Disconnect power before replacing lamp(s).
This device contains ultraviolet lamps that can cause discomfort, irritation, and damage to the eyes if viewing occurs while device is in operation. Prolonged exposure to the eyes can cause serious injury including blindness. DO NOT VIEW UV LAMP WHILE THE DEVICE IS IN OPERATION.

Overview

Specifications

Plumbing diameter: 2" Socket, 2½" SPIGOT
Input power: 120VAC, 50Hz/60Hz or 240VAC, 50Hz/60Hz
Power consumption: 151 Watts; or 1.26A, 120 VAC; 0.66A, 230VAC
Maximum operating pressure: 50 psi
Operating flow range: 10-120 gpm
Maximum flow rate: 120 gpm
99.9% sanitization flow rate maximum: 80 gpm

Sizing

The HydraPure is capable of sanitizing residential pools up to 60,000 gallons. For larger installations, more than one HydraPure can be used. When using multiple HydraPure units, plumb vessels in parallel.

Tools Needed

Saw or PVC pipe cutter
PVC glue
Philips head screwdriver

Water Preparation

Before starting operation of HydraPure, the pool's chemistry should be checked and adjusted to the recommended levels shown below. If opening the pool for the first time of the season, sanitize and balance the pool BEFORE operating HydraPure.

NOTE: UV light, whether from HydraPure or the sun, will deplete the pool's chlorine over time. It's important to maintain the proper level of Cyanuric Acid (Stabilizer) to prevent this reaction. Use the recommended level of Cyanuric Acid regardless of whether the pool is indoors or outdoors.

CHEMICAL	IDEAL LEVELS
Free Chlorine	1.0 - 3.0 ppm
Cyanuric Acid	30 to 50 ppm
pH	7.2 to 7.8
Total Alkalinity	80 to 120 ppm
Calcium Hardness	200 to 400 ppm
Iron	<0.3 ppm (0.3 mg/L)
Manganese	<0.05 ppm (0.05 mg/L)

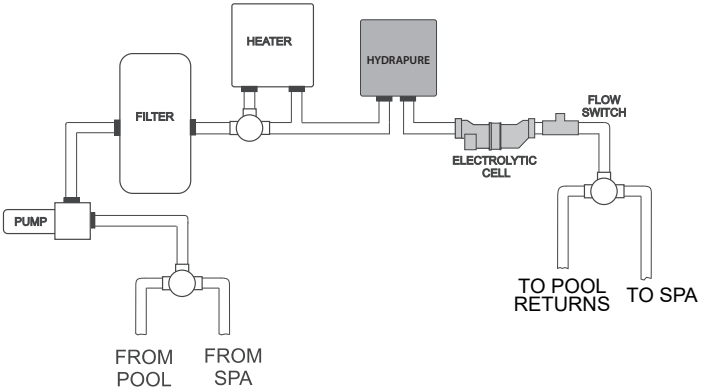
USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

Installation

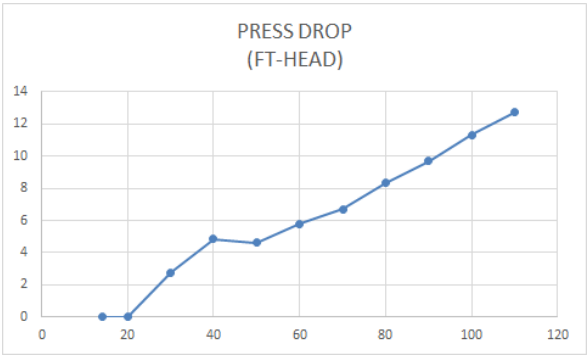
CAUTION: Before starting your installation, you MUST read this manual in its entirety in order to install your unit in a safe manner. Note that a few moments spent becoming familiar with the HydraPure unit and its installation may save a great deal of time (and expense) later. If you have any questions that are unanswered when you have completed the reading of this manual, contact your supplier or Hayward. Installation of HydraPure requires mounting, plumbing, installing a venturi and flow switch (on the return side of the filter pump), and connecting the required electrical connection. Disconnect power to the pool filter pump before starting this installation. Installation must be performed in accordance with local and NEC code. For hardwired installation, use only non-metallic flexible conduit.

Determine a Suitable Location

The HydraPure must be mounted at least 5' from the pool (more, if local codes require). The HydraPure should be installed after all equipment (pump, filter, heater) but prior to any chlorinators (salt cell, tablet feeder, liquid injection).

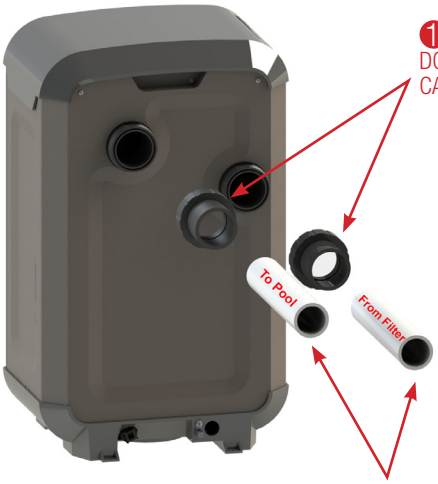


Head Loss



HAYWARD®

Plumbing the HydraPure Unit

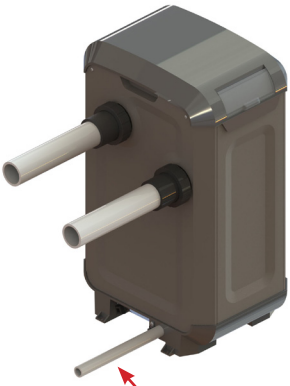


1. Attach the (2) PVC 2½" union nuts to the unit. DO NOT OVER TIGHTEN, OVER TIGHTENING WILL CAUSE THE UNIONS TO BREAK.

2. After cutting pipes to length, debur all cut pipe to ensure shavings don't plug critical points internal to the unit. Use PVC solvent cement to glue pipes into the union sleeve. NOTE the inlet and outlet pipe positions.

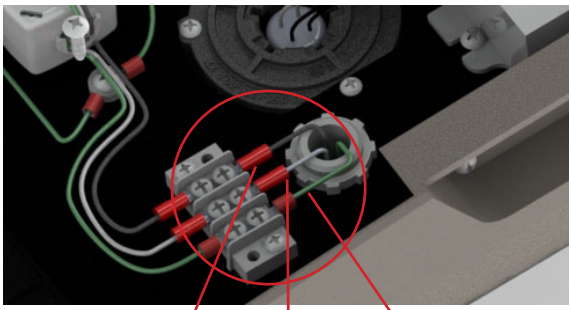
Connecting Power to the HydraPure Unit

Hardwired: 120V or 240V HydraPure unit: Follow steps 1 & 2 below.



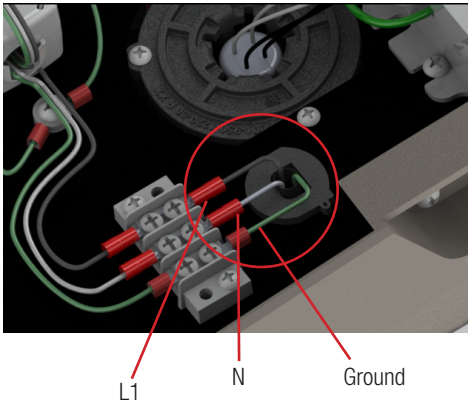
1. Thread L1, L2 (240V) or N (120V) and ground wire through conduit.

2. Remove the lid by following the instructions on the bottom of page 6. Attach wires to connections according to the illustration below.

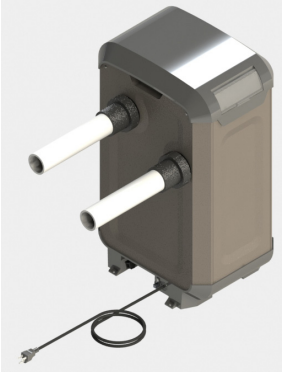


USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

Corded: Use Kit Number HYDRACORDKIT (sold separately) for 120V corded installation. Follow steps 1 & 2 below.



1. Remove the lid by following the instructions on the bottom of this page. To install the HYDRACORDKIT, attach wires to connections according to the illustration above.

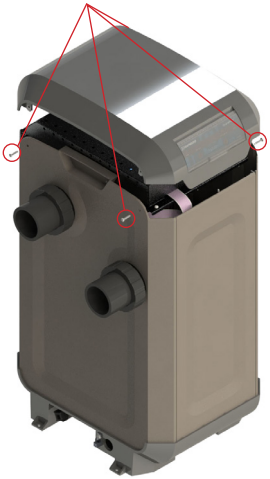


2. Plug HydraPure into a GFCI outlet.

Position the HydraPure Lid

The lid can be positioned in either of two directions for better view of the control panel.

1. Remove the 4 screws and then carefully lift the lid.



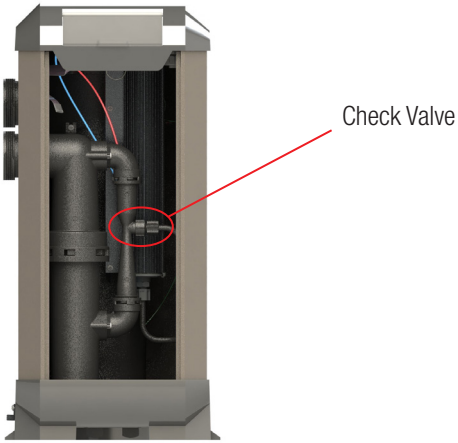
CAUTION: Be aware that there is a delicate control ribbon cable under the lid. Take care when handling.

2. Rotate the lid and replace it in the desired position. Replace the 4 screws.

In some cases it may be necessary to use an alternate Ozone check valve. This prevents the HydraPure unit from losing pump prime and draining down the equipment set. This would be necessary when the HydraPure Unit is positioned with the base of the unit greater than 1' above water level. In that case the inlet check valve must be changed based on the chart below.

Base of HydraPure to water level	Check Valve Rating	Part Number
1' or Lower	1.0 LB	HYDRACHKVLVOEM
1'-3' (30cm-90cm)	2.0 LB	HYDRACHKVLV2
3'-5' (90cm-150cm)	3.0 LB	HYDRACHKVLV3
5'-8' (150cm-240cm)	4.0 LB	HYDRACHKVLV4

In order to change the Ozone check valve, the installer simply loosens and unscrews the tubing compression fitting, loosen and unscrew the Check valve from the venturi Inlet connection. Warning: Be sure to shutoff the equipment before removing anything from the unit, and drain the unit using the winterizing plug. There may be water present in the Venturi if the unit has been cycled on.



Startup

1. Turn on the pool pump and verify that there are no leaks. If there are no leaks turn off pump and proceed to step 2.
2. Turn on power to the HydraPure by turning on the breaker or plugging it in.
3. Turn on the pool pump, the HydraPure will switch on automatically when it senses water flow.

Operation

No lights on unit is off

Green POWER light indicates power to unit

Green FLOW light indicates proper water flow into unit

Yellow Green UV BULB LIFE & Yellow Green OZONE BULB LIGHT indicates all bulbs and unit functioning properly

Green or red flashing UV BULB LIFE indicates UV bulb is nearing end of lifespan and will need replacing soon, see page 12

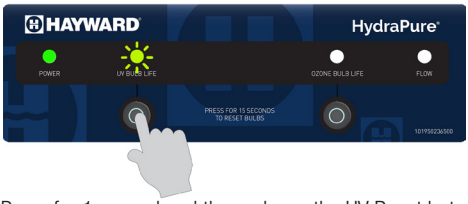
Green or red flashing OZONE BULB LIFE indicates ozone bulb is nearing end of lifespan and will need replacing soon, see page 13

Red flashing UV BULB LIFE indicates UV bulb is no longer sanitizing and should be replaced soon, see page 12

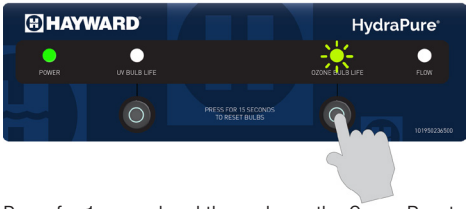
Red flashing OZONE BULB LIFE indicates ozone bulb no longer producing ozone and should be replaced soon, see page 13

Solid red UV BULB LIFE indicates Lamp is not powered on. Bulbs and ballast should be inspected for proper connection prior to replacement. See page 12

Solid red OZONE BULB LIFE indicates Lamp is not powered on. Bulbs and ballast should be inspected for proper connection prior to replacement. See page 13



Press for 1 second and then release the UV Reset button to view remaining lamp life. The UV LED will turn off, and then flash yellow once for each 1000 hours left. (9 flashes = 9000 hours remaining).



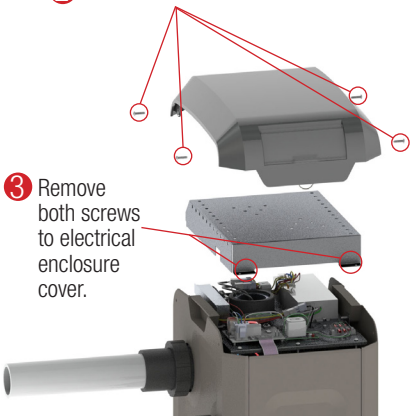
Press for 1 second and then release the Ozone Reset button to view remaining lamp life. The Ozone LED will turn off, and then flash yellow once for each 1000 hours left. (9 flashes = 9000 hours remaining).

Maintenance

The quartz tube requires cleaning every 12 months to ensure optimal performance.

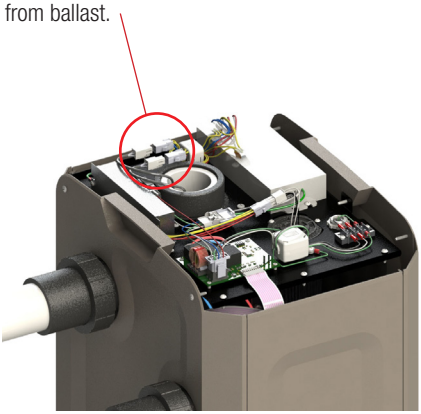
WARNING: Before cleaning, turn off all power to the HydraPure unit and pool pump. Allow at least 15 minutes for the lamp(s) in the unit to cool. Never remove the electrical enclosure cover without first disconnecting the power source from the HydraPure unit. Never remove the HydraPure unit's cover without turning off the pump. Before removing lamps, you must wear protective rubber gloves and safety eye wear. Do not handle a hot lamp or serious burns will occur.

1. Turn Off Power to unit or unplug.
2. Remove screws to lid.

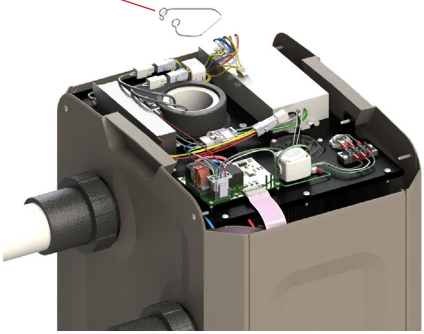


3. Remove both screws to electrical enclosure cover.

4. Disconnect UV lamps from ballast.



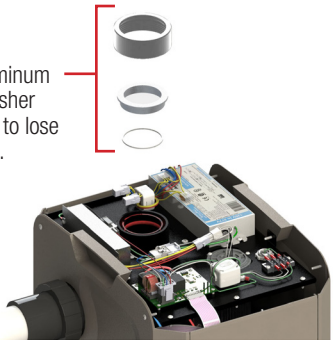
5. Remove spring clip.



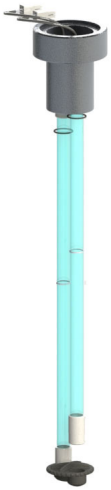
6 Carefully lift the lamp assembly, including lamp holder, do not pull excessively on the lamp wires.

7 Turning counter-clockwise, unscrew the round sealing nut.

8 Remove the aluminum compression washer making sure not to lose the black gasket.



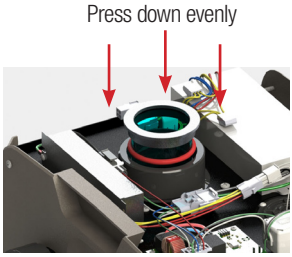
NOTICE: Do not touch the glass part of the lamp as body oils will create hot spots & greatly shorten lamp life. Inspect the quartz tube carefully for any cracks or chips and replace the quartz tube if any are found. Do not use any other O-ring for sealing the quartz tube. Never use any type of lube or sealing agent. Doing so can result in a leak and possibly damaging the UV unit.



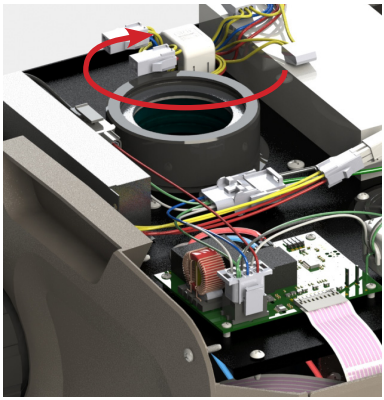
9 To remove quartz tube, grip quartz tube with both thumbs inside and pull up. Once the O-ring breaks free, the quartz tube should lift out easily.

10 First, remove O-ring and discard. Use shower/tub cleaner, CLR or equivalent, or a solution of white vinegar and water to clean the outside/inside of the quartz tube. The quartz tube must be completely dried and clear of residue, replace with new O-ring before reassembly.

CAUTION: Do not use tools on the quartz tube. Wear gloves to protect your hands in case the tube breaks.



11 Gently lower the quartz tube into the unit until the O-ring makes contact with the top of the black threaded sealing sleeve. Then place the aluminum compression washer and gasket on the quartz tube. Press down on the aluminum compression washer with an even steady pressure. Lift aluminum washer and check to make sure it is seated evenly around the circumference of the quartz tube. Replace aluminum washer.



12 **CAUTION: Do not stand over the unit when it is under pressure or when the pump is on.**

Screw on the quartz sealing nut to hand tight plus ½ turn. Turn pump on to check for leaks.

Confirm that there are no leaks then turn off pump.

Carefully replace lamps, spring clip and connect lamps to ballast.

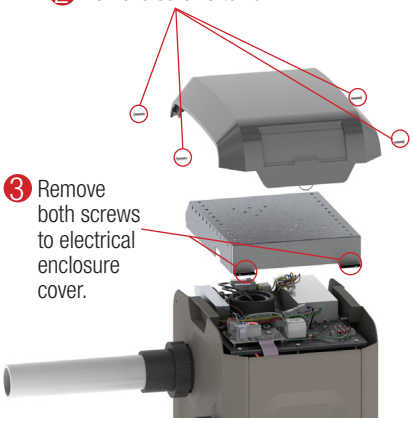
Reattach electronics cover and the lid. Turn power on to unit and turn pump on.

UV Lamps Replacement

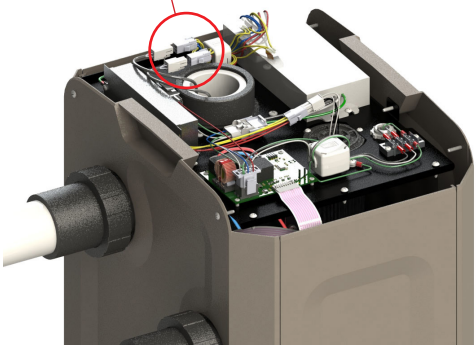
WARNING: Turn off all power to the HydraPure unit and pool pump. Before proceeding allow at least 15 minutes for the lamp(s) in the unit to cool. Never remove the electrical enclosure cover without first disconnecting the power source from the HydraPure unit. Never remove the HydraPure unit's cover without turning off the pump. Before removing lamps, you must wear protective rubber gloves and safety eye wear. Do not handle a hot lamp or serious burns will occur.

Red flashing UV BULB LIFE indicates UV bulb is no longer sanitizing and should be replaced soon,

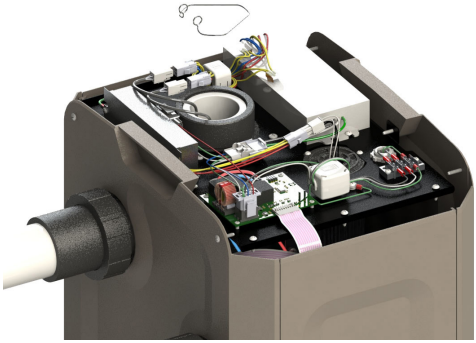
1. Turn Off Power to unit or unplug.
2. Remove screws to lid.
3. Remove both screws to electrical enclosure cover.



4. Disconnect UV lamps from ballast.



5. Remove spring clip.



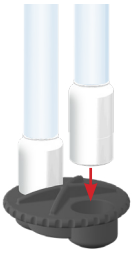
6 Carefully lift the lamp assembly, including lamp holder, do not pull excessively on the lamp wires.

7 Insert lamps into lamp holder. Lamps must be aligned and seated securely in the lamp holder. Roll the black O-rings up onto the ceramic end of lamp from position A to B.

8 Gently insert lamps into the lower lamp retainer and lower lamp assembly into unit. Re-install the spring clip and re-attach the lamp connectors to the ballast.

9 After power is restored, press and hold UV BULB LIFE Button, for a minimum of 15 seconds, to reset the lamp life indicator.

Discard lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.



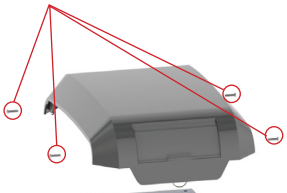
Ozone Lamps Replacement

WARNING: Turn off all power to the HydraPure unit and pool pump. Before proceeding allow at least 15 minutes for the lamp(s) in the unit to cool. Never remove the electrical enclosure cover without first disconnecting the power source from the HydraPure unit. Never remove the HydraPure unit's cover without turning off the pump. Before removing lamps, you must wear protective rubber gloves and safety eye wear. Do not handle a hot lamp or serious burns will occur.

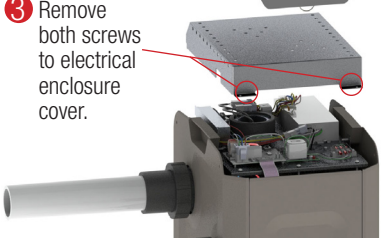
Red flashing OZONE BULB LIFE indicates ozone bulb no longer producing ozone and should be replaced soon.

1. Turn Off Power to unit or unplug.

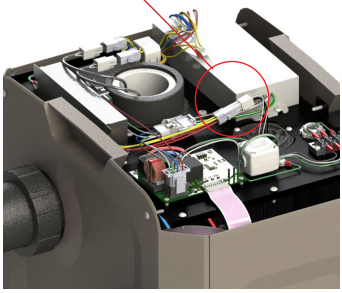
2. Remove screws to lid.



3. Remove both screws to electrical enclosure cover.



4. Disconnect Ozone lamp.

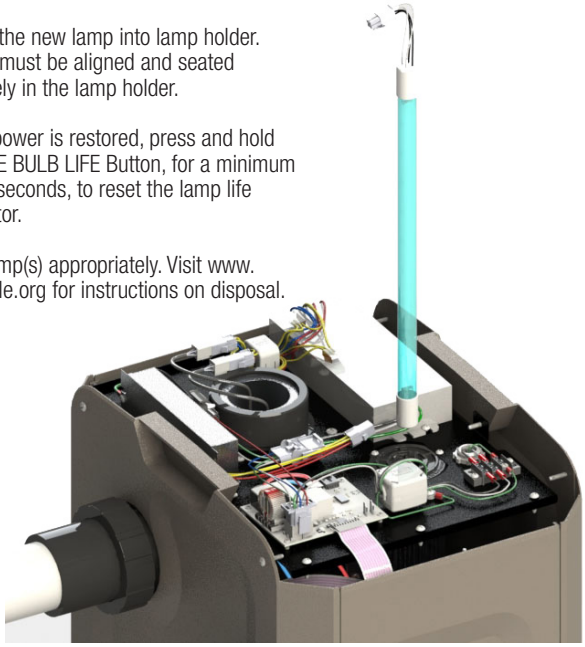


5. Carefully lift the lamp assembly, a slight tug may be necessary to loosen the lamp from the lamp retention fingers.

6. Insert the new lamp into lamp holder. Lamp must be aligned and seated securely in the lamp holder.

7. After power is restored, press and hold OZONE BULB LIFE Button, for a minimum of 15 seconds, to reset the lamp life indicator.

Discard lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.



Winterizing

WARNING: Turn off all power to the HydraPure unit and pool pump before proceeding to winterize.

Remove Winterizing O-ring plug near the bottom of the unit by turning counter clockwise. Note, there will be an initial rush of water from the unit after the plug is removed. Allow unit to completely drain, this will take 1-2 minutes. Re-install O-ring plug hand tight.

Replacement Parts

A table of replacement parts is shown below. Refer to the diagram on page 17 when using the table.

ITEM NO.	PART NUMBER	DESCRIPTION
1	HYDRACORDKIT	KIT, CONVERSION, 120V CORDED HYDRAPURE
2	HYDRAMEMBRANE	REPLACEMENT, MEMBRANE SW & CABLE
3	HYDRAPCBA	BOARD W/TUBES & SENSOR
4	HYDRAHARNESS	WIRE HARNESS
5	HYDRASCREWPK	SCREW PACK REPLACEMENTS
6	HYDRAORINGS	KIT, ORINGS
7	HYDRACHKVLVBP	BYPASS VALVE
8	HYDRACHKVLVOEM	INLET CHECK VALVE OEM
9	HYDRACHKVLV2	INLET CHECK VALVE 2LB
10	HYDRACHKVLV3	INLET CHECK VALVE 3LB
11	HYDRACHKVLV4	INLET CHECK VALVE 4LB
12	005-422-9015-00	KIT, REPLACEMENT, 2 LAMP
13	005-952-1230-00	LAMP, 1PC, O3
14	005-422-5102-00	SEALING ASSY, QUARTZ TUBE
15	005-422-2009-09	QUARTZ TUBE W/ SEAL KIT
16	005-422-4271-00	UNIBOOTY, 2 LAMP, REPLACEMENT
17	005-422-5103-00	SEAL, QUARTZ TUBE, REPLACEMENT
18	005-952-9024-00	KIT, LAMP, 3PC W/ BOOT AND ORING
19	005-952-2915-00	PLUG, DRAIN, 1/2", W/ ORING
20	005-952-2917-00	ORING, F/ DRAIN PLUG, 1/2", 4PK
21	005-952-1570-00	BALLAST W/WIRES, O3
22	005-422-3865-00	BALLAST W/WIRES, UV
23	SPX3200UNKIT	UNION, TRISTAR, 2 PK

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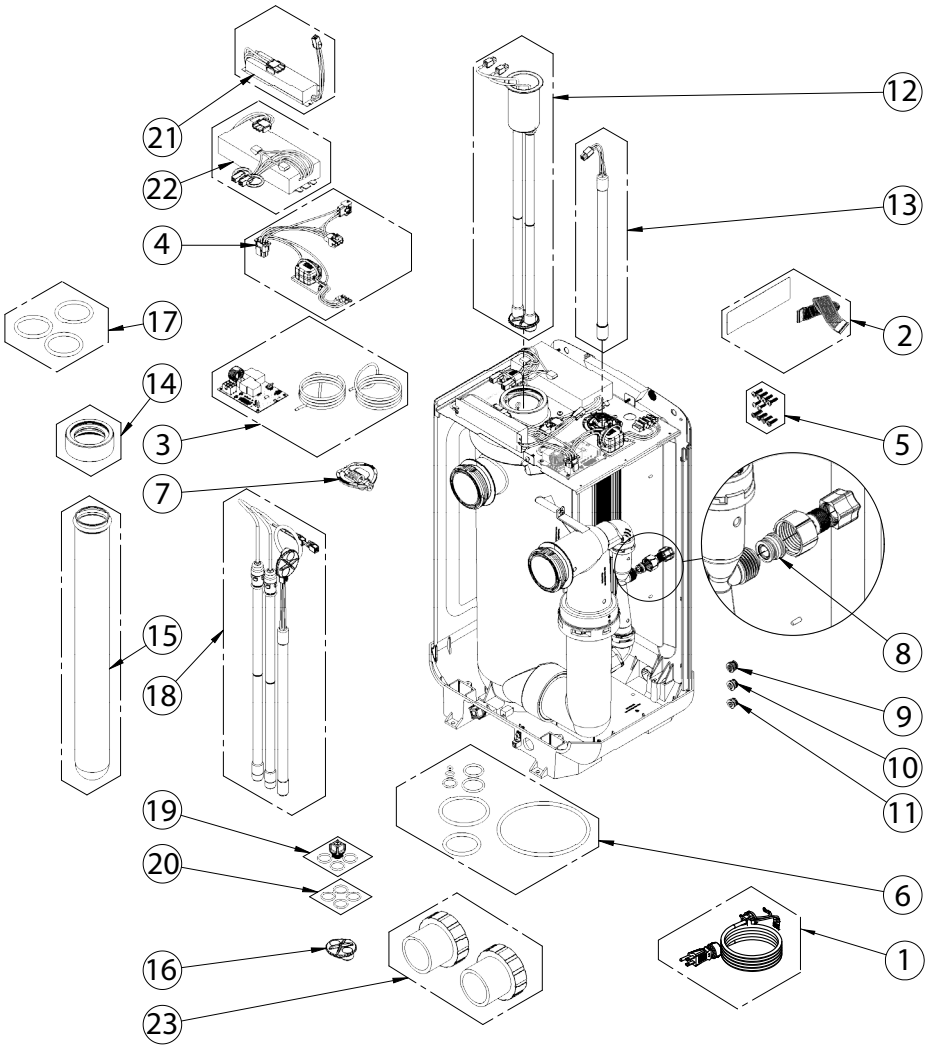
Replacement Parts



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HYDRAPURE™

CLEAN WATER - SIMPLIFIED

Technical Training Guide

TTG-HYDPc

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Safety Precautions

High Voltage Electrocution Hazard

Hazardous voltage can shock, burn, cause serious injury and or death. To reduce the risk of electrocution and or electric shock hazards:

- Only qualified technicians should install the vessel
- Replace damaged wiring immediately
- Insure vessel is properly grounded and bonded
- Device **MUST** be G.F.C.I. protected

Ultraviolet Radiation

- Disconnect power before replacing lamp
- UV LIGHT PRODUCED BY THIS UNIT IS HARMFUL TO THE EYES AND MAY CAUSE BLINDNESS. DO NOT LOOK DIRECTLY AT A LIT BULB!

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Table of Contents

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HYDRAPURE™

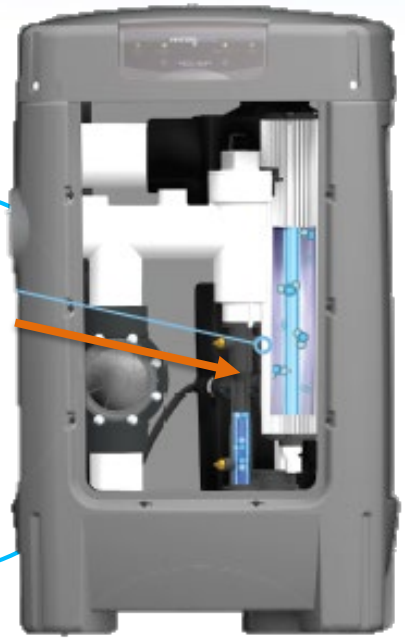
CLEAN WATER · SIMPLIFIED

How it Works

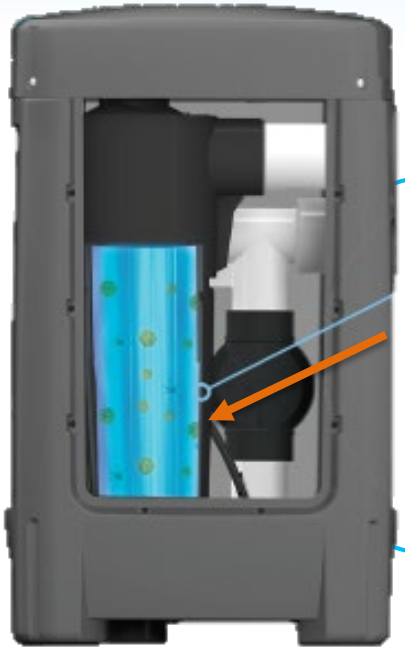
How it works: Talking Points

- Advanced Oxidation Process (AOP) combines UV and Ozone to create Hydroxyl Radicals.

OZONE: Eliminates organic compounds and stops chlorine byproducts from forming.



AOP
ADVANCED OXIDATION PROCESS



UV: Inactivates 99.9% of microorganisms that are resistant to chlorine.

- Works to purify water while reducing the amount of traditional or salt-generated chlorine by up to 80%.
- Safely inactivates 99.9% of microorganisms (up to 80 GPM) while using less chemicals.

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How it works: Talking Points (cont.)

- Easy to install.
- Works well with variable speed pumps and easily handles required turnover flow rates up to 120 GPM.
- Weather does NOT influence the effectiveness.
- Safe, eco-friendly, energy efficient, & family friendly.
- Residential pools up to 40,000 gallons.

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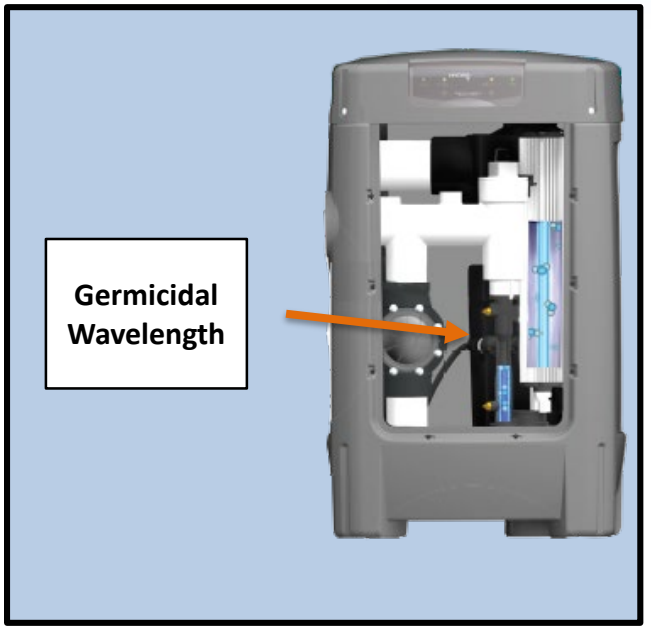
How it works:

AOP
ADVANCED OXIDATION PROCESS

Water flows into the inlet port of the HydraPure system. The wet chamber can handle up to 120 gpm, but is most effective up to 80 gpm.



As water flows through the wet chamber, it is treated by a UV light wavelength emitting at 254nm to reduce a wide array of microorganisms.

***nm refers to nanometers and is how ultraviolet light is measured**

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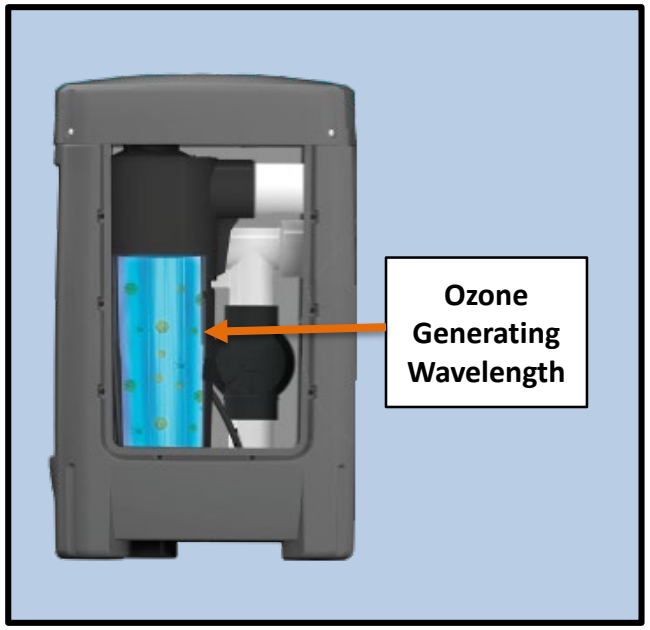
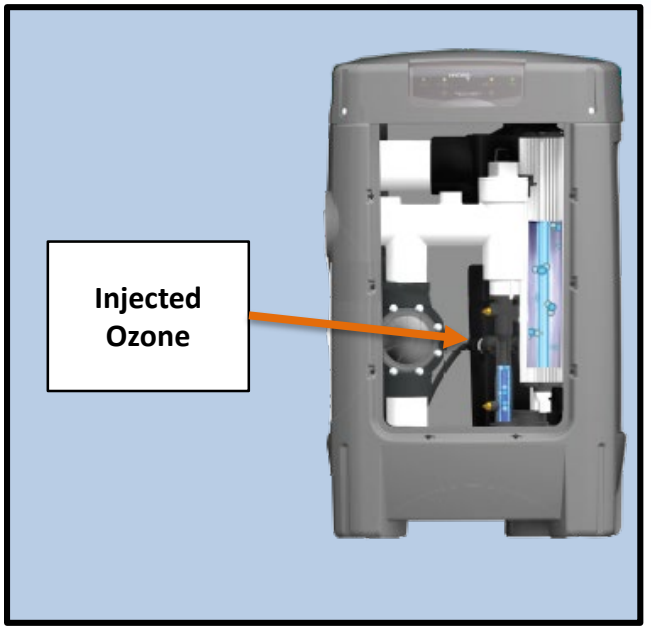
How it works: AOP (cont.)

ADVANCED OXIDATION PROCESS



As water continues to flow through the wet chamber it will interact with an Ozone bulb emitting a wavelength of 185nm.



The Ozone is injected into the water stream using a venturi. The Ozone and UV combined creates the Advanced Oxidation Process or AOP.

***nm refers to nanometers and is how ultraviolet light is measured**

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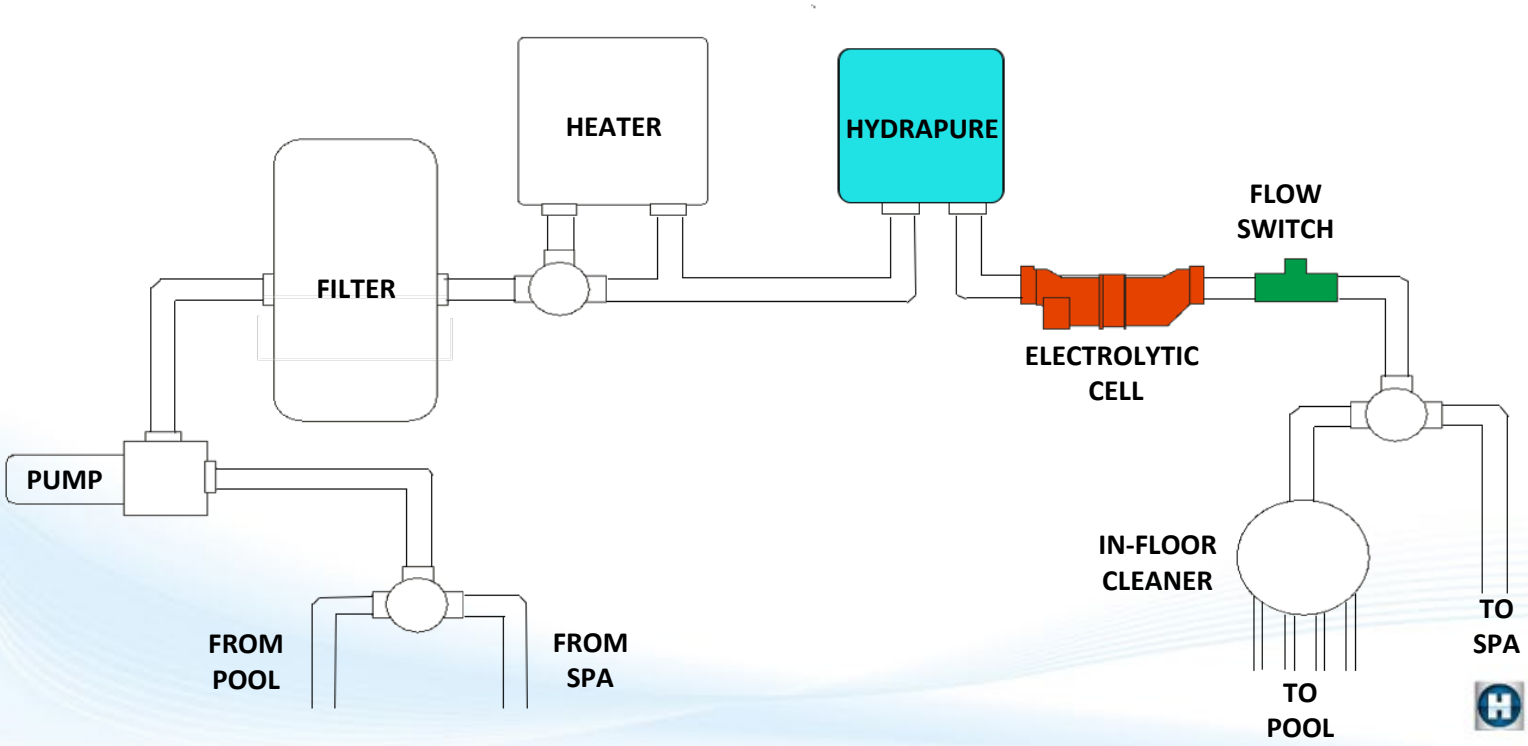
CLEAN WATER · SIMPLIFIED

How to Guide

How to: Install HydraPure

- Power to filter pump must be off before starting the installation.
- Install HydraPure Vessel on a level concrete slab or other rigid base.
- HydraPure includes two 2 ½" unions. If dealing with 2" plumbing you must use 2" x 2 ½" reducer bushings (not included).
- HydraPure must be installed AFTER the filter and has a maximum operating pressure of 50psi.
- HydraPure should be installed after all equipment (pump, filter, heater) but prior to any chlorinators (salt cell, tablet feeder, liquid injection).



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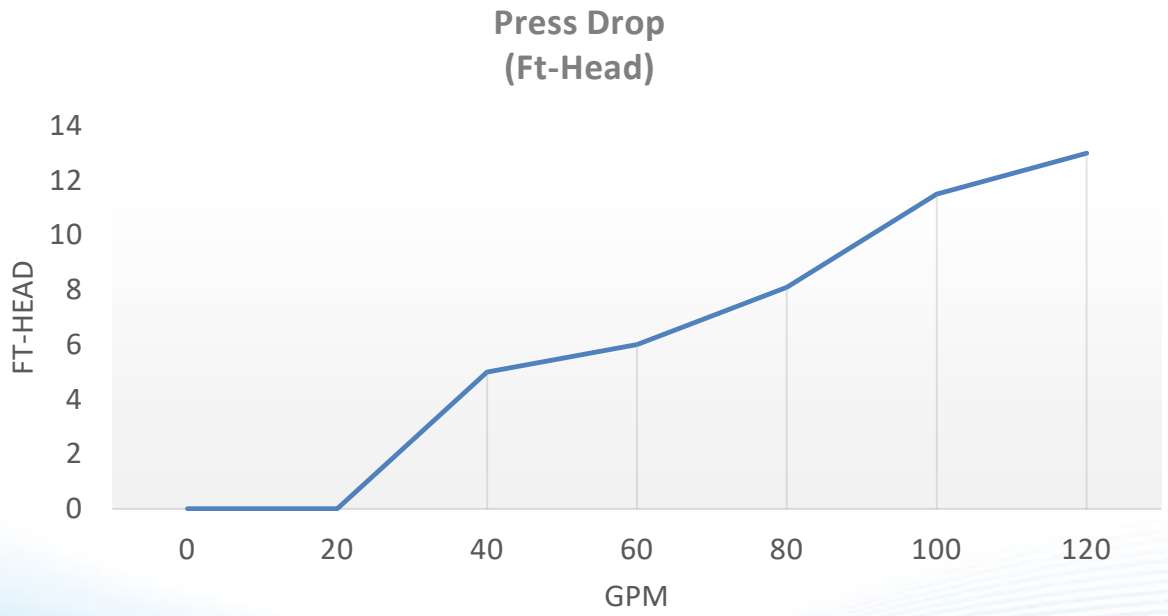
How to: Install HydraPure (cont.)

- HydraPure must be at least 10 feet from the pool.
- Do NOT overtighten the unions as this may cause them to break.
- HydraPure can operate between 20 gpm – 120 gpm without the need for an external bypass. However, anything over 80 gpm will decrease the performance of the vessel.
- Refer to table below for Head Loss Information.



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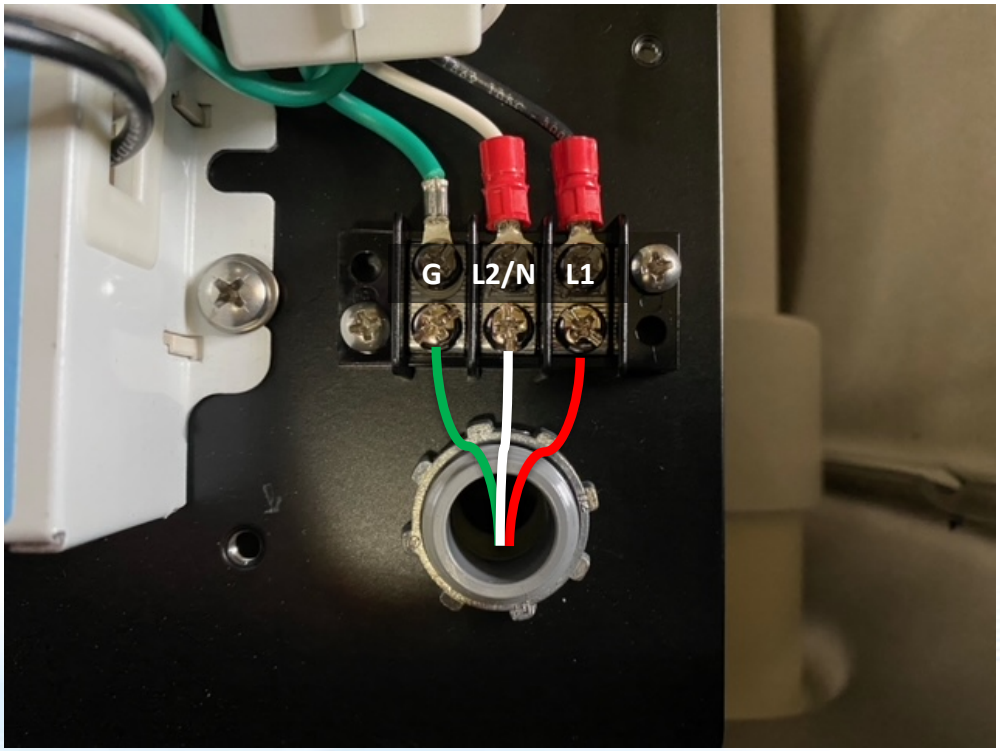
How to: Wire HydraPure

- Available in a corded or hardwired version.
- The corded version is rated for 120vac 50hz/60hz applications.
- The hardwired version is **voltage sensing** and can be installed on either 120vac or 240vac 50hz/60hz applications using ½" flexible conduit. **No conversion necessary**.
- Power consumption is 120watts; or 1.2amps for 120vac; 0.6amps for 240vac.
- HydraPure should be on it's own dedicated GFCI breaker when hardwired.
- HydraPure **MUST** be bonded using a #8 solid copper bond wire.
- Recommended to have on Load side of timer or on a relay.

Hardwired Version



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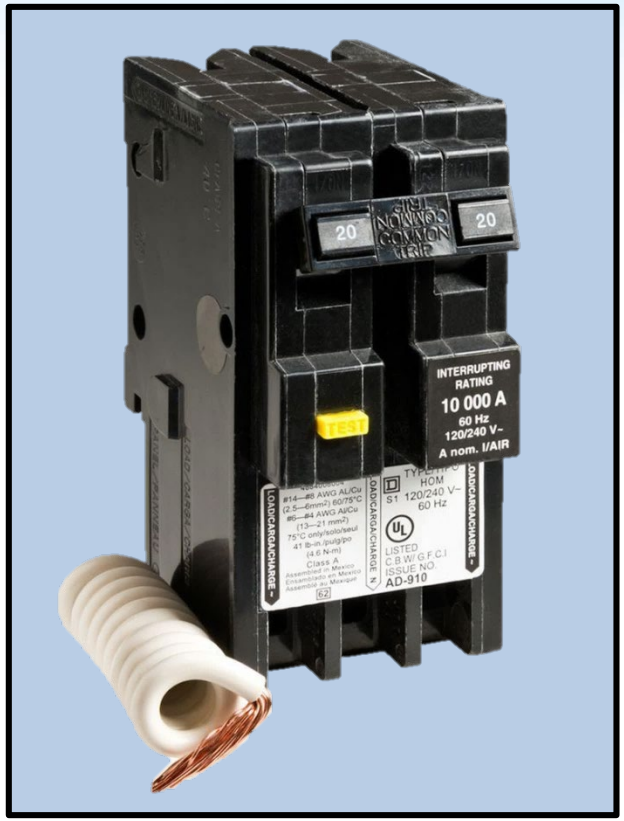
How to: Recommended for 230vac Applications

Siemens QF220
20 Amp 2 Pole 240vac GFCI

- ✓ *Plug in mounting style
- ✓ Class A - 20 amp GFCI protection
- ✓ UL listed at **5 milliamp** trip sensitivity
- ✓ 240vac two pole circuit breaker

Square D Homeline HOM220GFI
20 Amp 2 Pole 240vac GFCI



- ✓ *Plug in mounting style
- ✓ Class A - 20 amp GFCI protection
- ✓ UL listed at 6 **milliamp** trip sensitivity
- ✓ 240vac two pole circuit breaker

***The use of these circuit breakers can help reduce the occurrence of nuisance tripping of the GFCI**

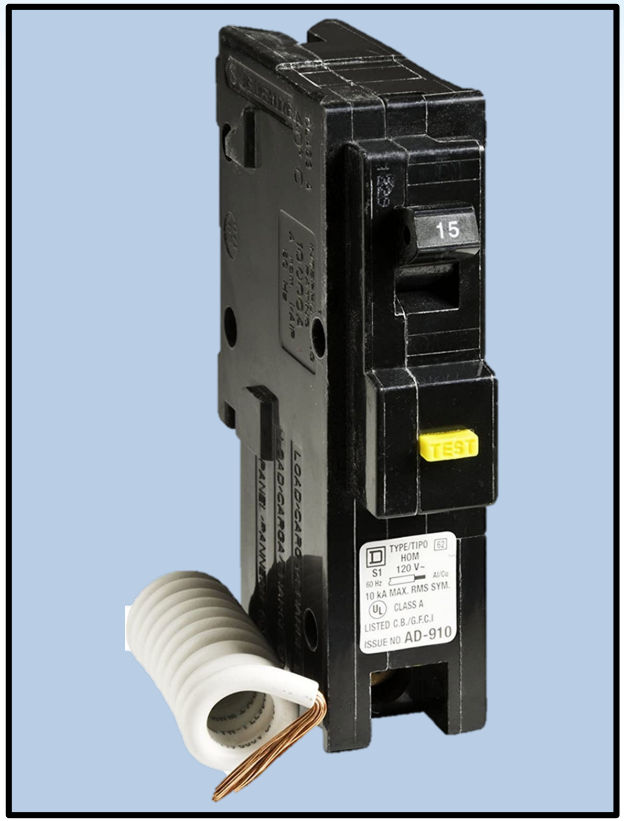
HAYWARD

How to: Recommended for 120vac Applications

Siemens QF115P
15 Amp 1 Pole 120vac GFCI

- ✓ *Plug in mounting style
- ✓ Class A - 15 amp GFCI protection
- ✓ UL listed at **5 milliamp** trip sensitivity
- ✓ 120vac single pole circuit breaker

Square D Homeline HOM115GFICP
15 Amp 1 Pole 120vac GFCI



- ✓ *Plug in mounting style
- ✓ Class A – 15 amp GFCI protection
- ✓ UL listed at **6 milliamp** trip sensitivity
- ✓ 120vac single pole circuit breaker

***The use of these circuit breakers can help reduce the occurrence of nuisance tripping of the GFCI**

HAYWARD

How to: Pool Preparation

- Start pump and verify there are no leaks.
- If opening the pool for the first time of the season, sanitize and balance the pool BEFORE operating HydraPure.
- If pool is already open, before operating the HydraPure, pool chemistry must be checked and properly balanced.

Chemical	Ideal Levels
Free Chlorine	.5 to 3.0 ppm
Cyanuric Acid	30 to 50 ppm
pH	7.2 to 7.8
Total Alkalinity	80 to 120 ppm
Calcium Hardness	200 to 400 ppm
Iron	Less than 0.3 ppm (0.3mg/L)
Manganese	Less than 0.05 ppm (0.05mg/L)

How to: HydraPure Lid Orientation

- Houses the LED Indicators.
- Designed to be able to be oriented toward each of the 4 sides of the unit.
- To adjust orientation remove the 4 screws securing the Lid cover.
- Lift the Lid cover and rotate to desired position and lower back on to the unit.
- Reinstall the 4 screws. Do not overtighten.

*Be aware that there is a delicate control ribbon cable under the lid. Take care when handling.

How to: HydraPure Operation

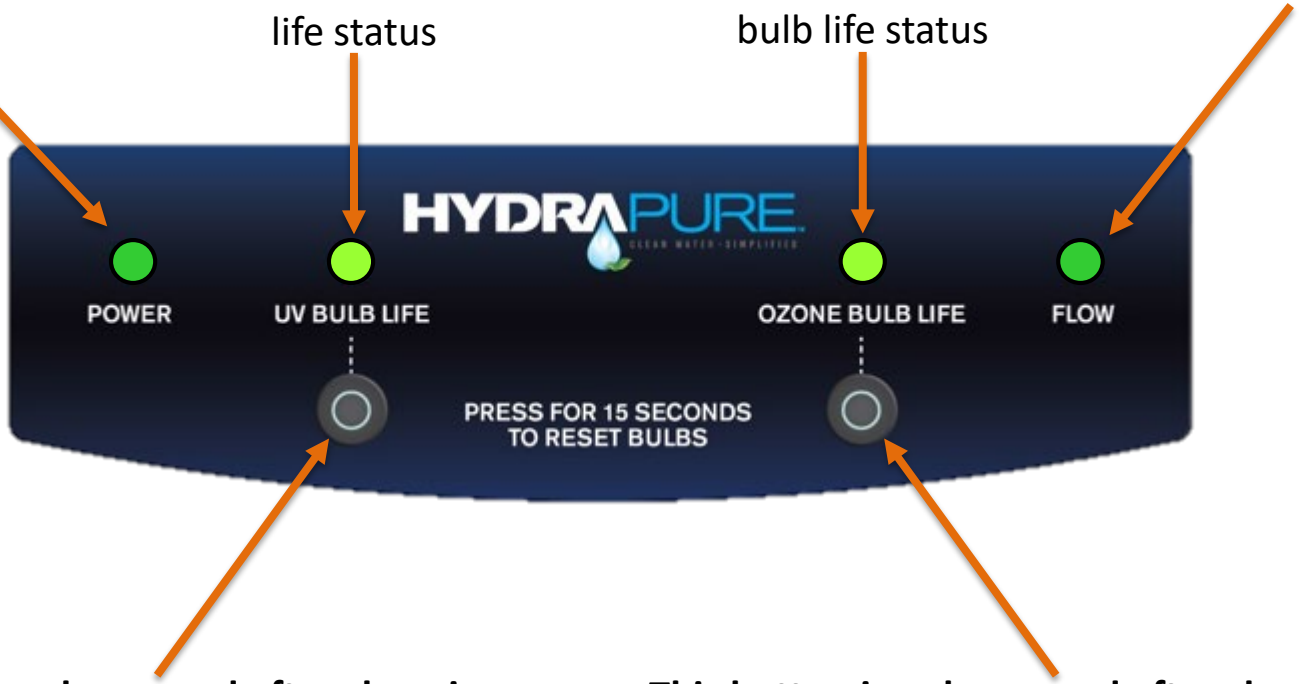
***When power is first applied to unit, the UV and Ozone indicators will light up red for a brief moment.**
This is normal operation and they should switch to green if operating correctly.
The green hue of the POWER / FLOW LEDs ARE different from the UV / OZONE LEDs.

Indicates power to the HydraPure Unit

Indicates UV bulb life status

Indicates Ozone bulb life status

Indicates water flow to the HydraPure unit



This button is only pressed after changing the UV bulb. Press and hold for 15 seconds while the unit is connected to power in order to reset the UV bulb life indicator.

This button is only pressed after changing the Ozone bulb. Press and hold for 15 seconds while the unit is connected to power in order to reset the Ozone bulb life indicator.

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HYDRAPURE™

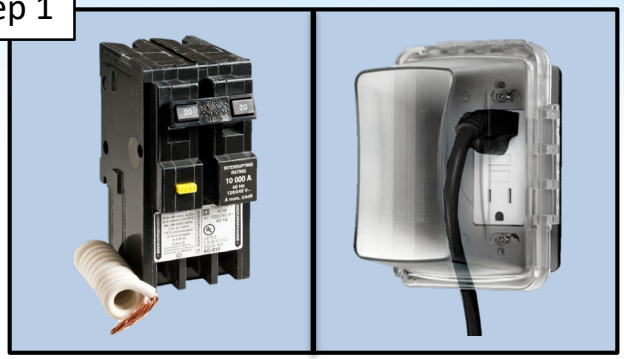
CLEAN WATER · SIMPLIFIED

Maintenance Guide

Maintenance: Clean the Quartz Tube

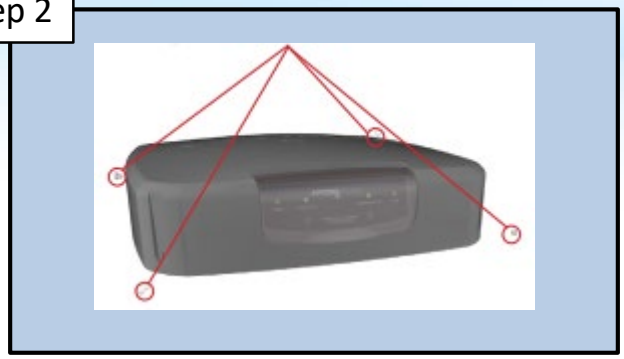
The quartz tube requires cleaning every 12 months for optimum performance.

Step 1



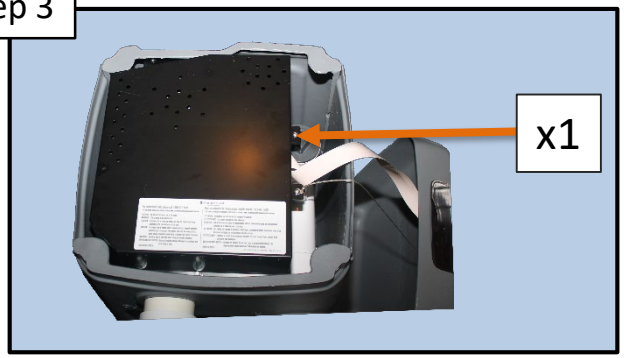
Turn off/unplug all power to the HydraPure and all other pool equipment. Allow unit to cool for 15 minutes before proceeding to the next step.

Step 2



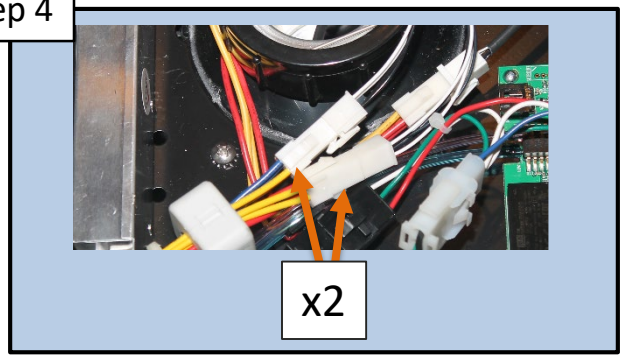
Remove the four (4) screws that secure the Lid cover. Use the provided strain relief to allow cover to hang to the side.

Step 3



Remove the one (1) screw that secures the electrical enclosure cover, remove the cover and set it to the side.

Step 4



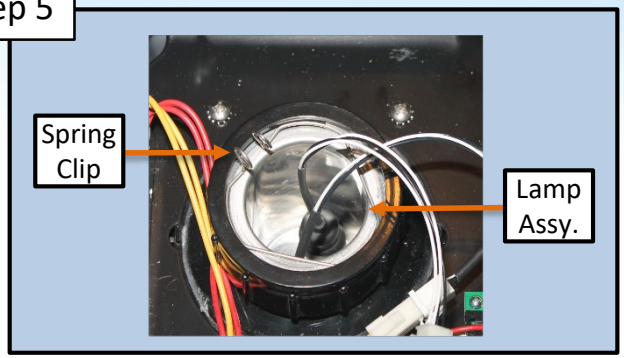
*Wearing protective rubber gloves and safety eyewear, disconnect the lamps by pressing the release tabs and gently pulling apart.

***Take care to not touch the glass part of the lamps as body oils will create hot spots and shorten bulb life.**

HAYWARD

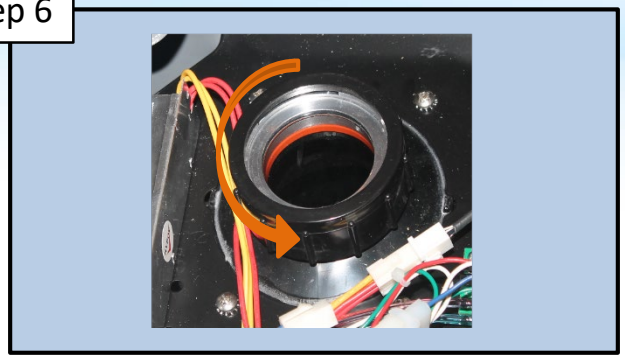
Maintenance: Clean the Quartz Tube (cont.)

Step 5



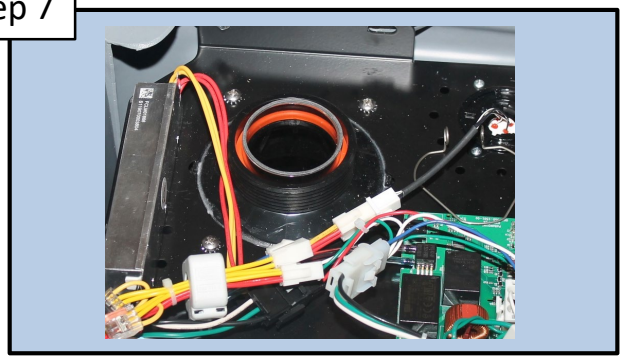
Remove the spring clip and carefully lift the lamp assembly from the quartz tube. Do not pull on lamp wires. Set aside in a safe place.

Step 6



Remove the round sealing nut by turning it counter clockwise. Remove compression washer. Do not to lose the black gasket.

Step 7



*Grip quartz tube with both thumbs inside and pull up. Once O-ring breaks free the tube should lift out easily.

Step 8

Wear proper PPE, use a shower cleaner, CLR type cleaner, or a solution of white vinegar and water to clean the outside of the quartz tube.

***The quartz tube is fragile. Handle it carefully. Do not set it down on a hard surface or use abrasive cleaners or pads.**

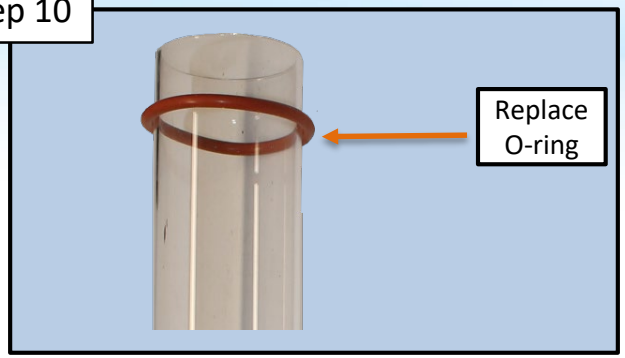
HAYWARD

Maintenance: Clean the Quartz Tube (cont.)

Step 9

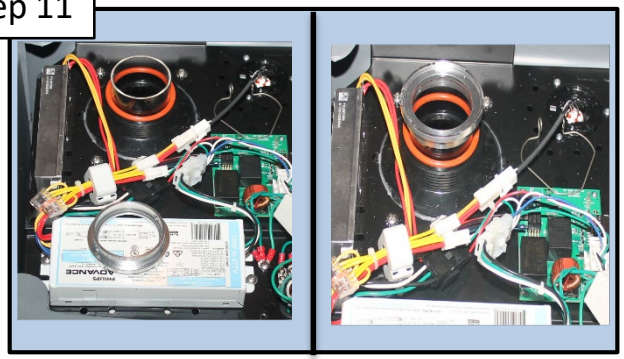
Clean the inside of the tube if necessary. Inspect the tube for cracks or chips. Verify the tube is completely dry and clear of residue prior to reassembly.

Step 10



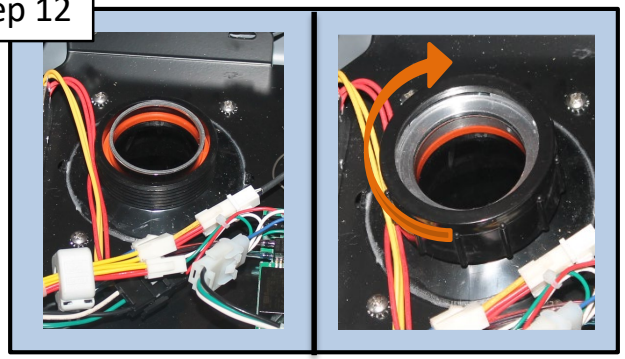
Replace O-ring with a new O-ring after cleaning the tube. Place the new O-ring 2” from top of quartz tube. **Do NOT** use lube or sealing agent on the O-ring.

Step 11



Gently lower tube into unit until O-ring contacts top of black sealing sleeve. Place compression washer onto the quartz tube and press down until O-ring moves into black sealing sleeve.

Step 12



Lift compression washer to verify proper seating. Re-install washer and screw on the quartz sealing nut to hand tight plus ½ a turn. Turn pump on and check for leaks.

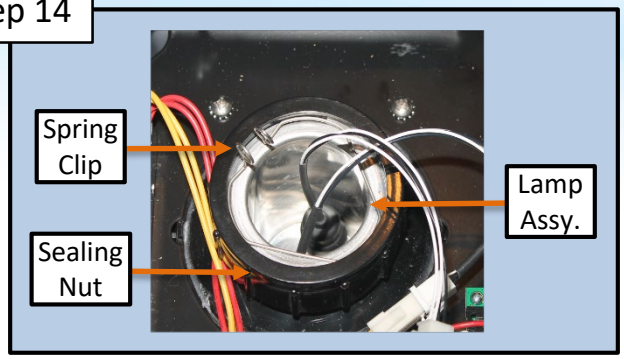
HAYWARD

Maintenance: Clean the Quartz Tube (cont.)

Step 13

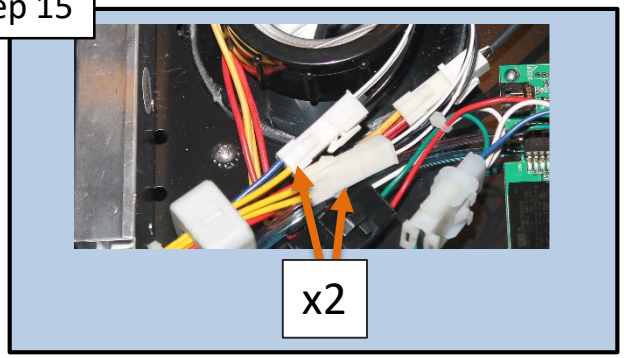
Turn on the filter pump and confirm there are no leaks then turn pump off.

Step 14



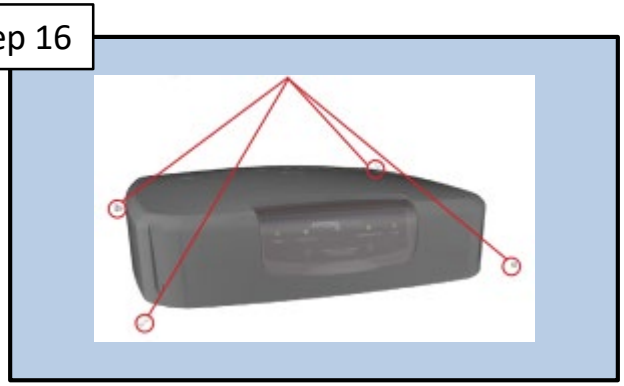
Carefully re-install lamp assembly, and spring clip.

Step 15



Re-connect both UV lamp wires to the UV Ballast.

Step 16



Re-install electrical cover and Lid cover and turn the pump back on.

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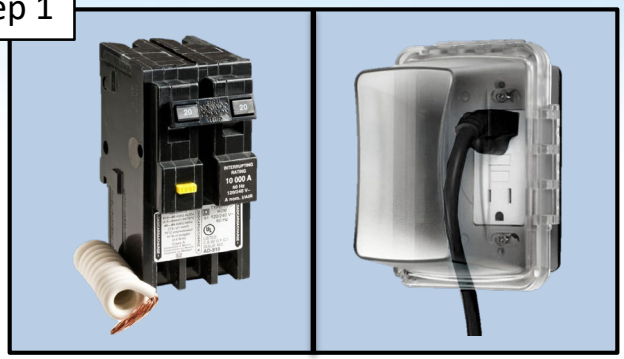
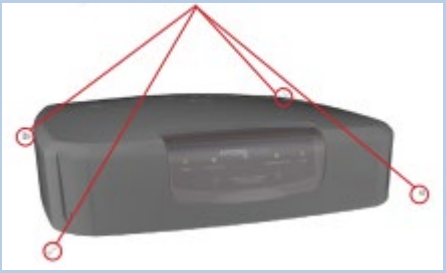
Maintenance: Replace UV Lamps

Step 1



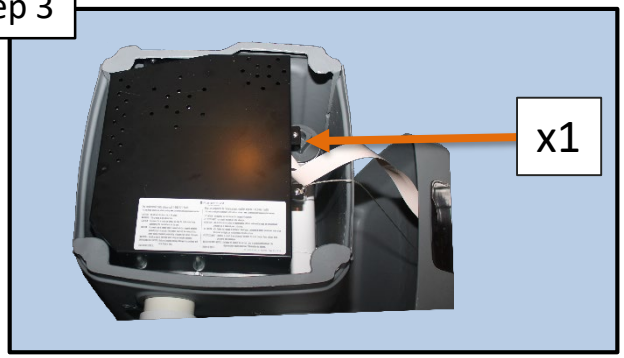
Turn off/unplug all power to the HydraPure and all other pool equipment. Allow unit to cool for 15 minutes before proceeding to the next step.

Step 2



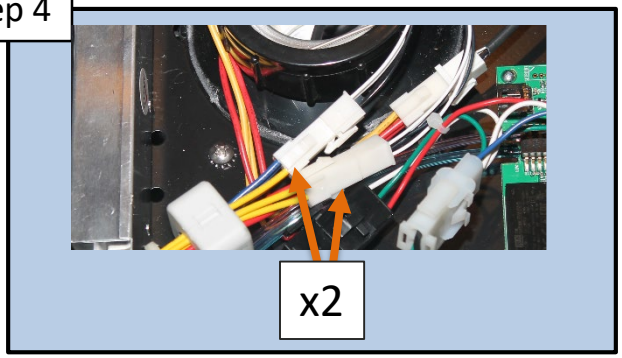
Remove the four (4) screws that secure the Lid cover. Use the provided strain relief to allow cover to hang to the side.

Step 3



Remove the one (1) screw that secures the electrical enclosure cover, remove the cover and set it to the side.

Step 4



*Wearing protective rubber gloves and safety eyewear, disconnect the lamps by pressing the release tabs and gently pulling apart.

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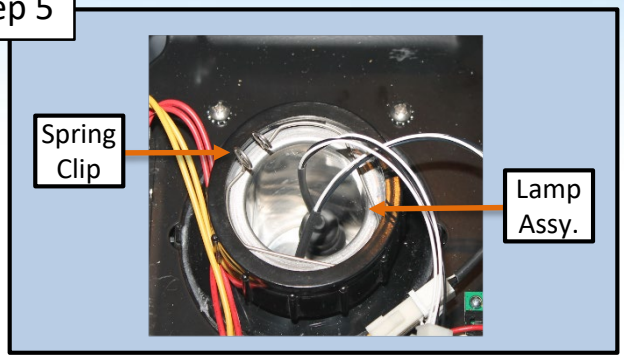
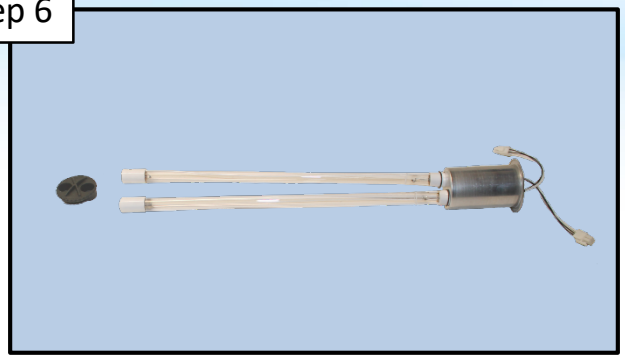
Maintenance: Replace UV Lamps (cont.)

Step 5



Remove the spring clip and carefully lift the lamp assembly from the quartz tube. Do not pull on lamp wires. Set aside in a safe place.

Step 6

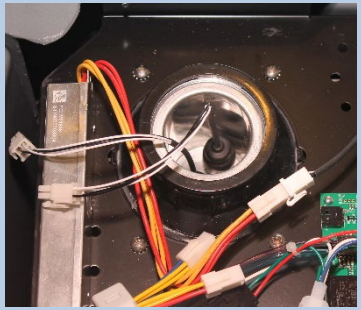


*Carefully remove the new lamp assembly from the box. Insert lamps into lamp holder. Make sure bulbs are aligned and seated correctly.

Step 7

Gently insert lamps into lower lamp boot.

Step 8



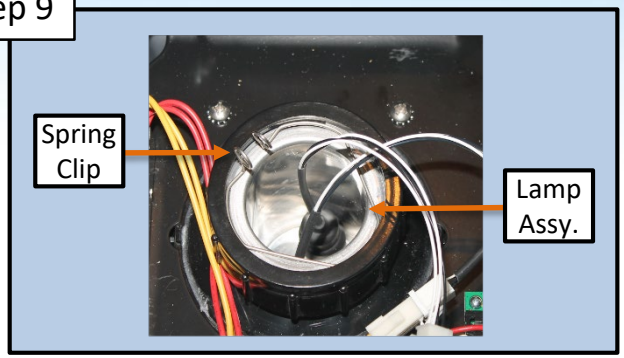
Carefully lower the lamp assembly into the unit.

***Roll the black O-rings onto the ceramic end of the lamp.**

HAYWARD

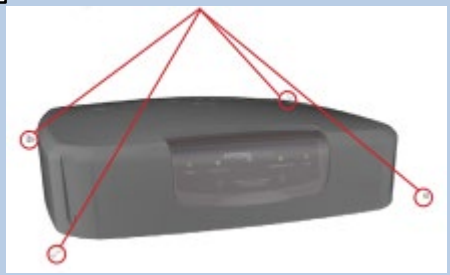
Maintenance: Replace UV Lamps (cont.)

Step 9



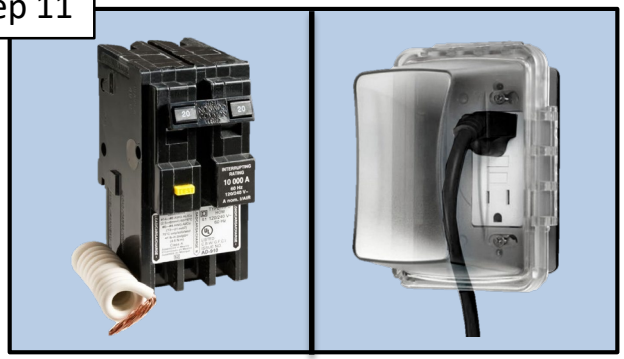
Re-install the spring clip and re-connect he lamp cables.

Step 10



Re-install the electrical cover and Lid cover onto the unit and secure the four (4) screws.

Step 11



Re-connect power to the unit and pool equipment.

Step 12

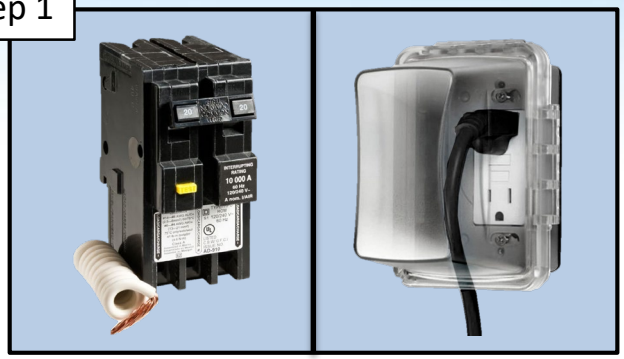
Hold down the UV Bulb Life button for 15 seconds to reset the lamp life counter.

*Discard the lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.

HAYWARD

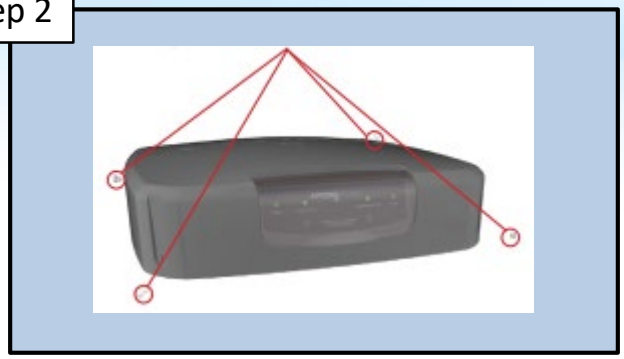
Maintenance: Replace O3 Lamp

Step 1



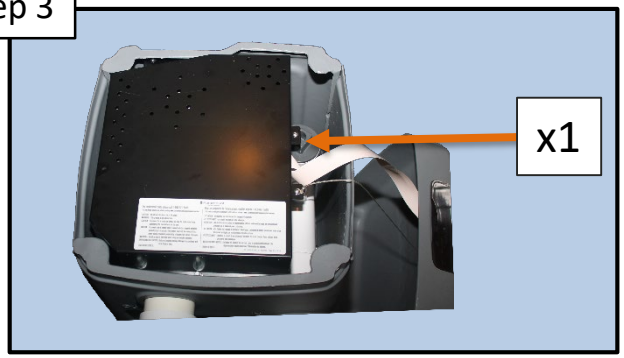
Turn off/unplug all power to the HydraPure and all other pool equipment. Allow unit to cool for 15 minutes before proceeding to the next step.

Step 2



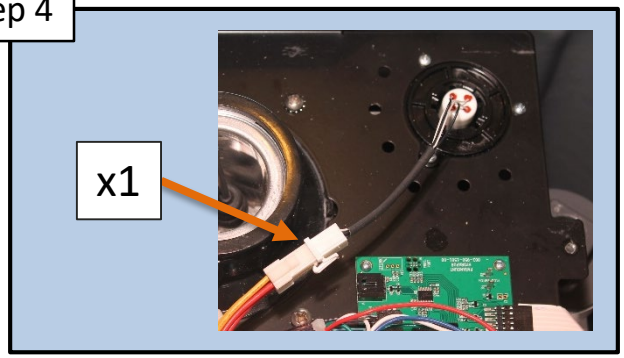
Remove the four (4) screws that secure the Lid cover. Use the provided strain relief to allow cover to hang to the side.

Step 3



Remove the one (1) screw that secures the electrical enclosure cover, remove the cover and set it to the side.

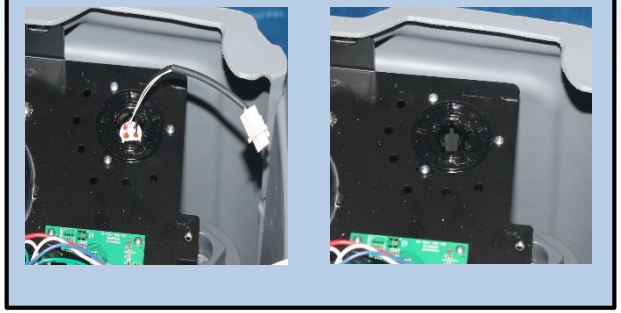
Step 4



*Wearing protective rubber gloves and safety eyewear, disconnect the lamp by pressing the release tab and gently pulling apart.

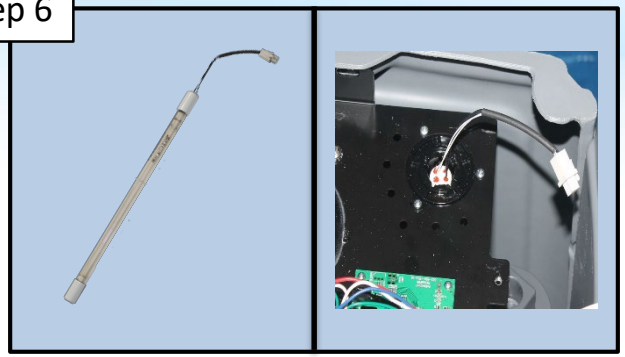
Maintenance: Replace O3 Lamp (cont.)

Step 5



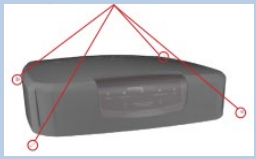
Carefully lift the lamp assembly. A slight tug may be needed to jostle the lamp loose from the lamp retention fingers.

Step 6



Carefully remove new lamp from the box and insert it into the lamp holder. Make sure lamp is aligned and seated properly.

Step 7



Re-install the lamp connectors to the ballast. The lamp connector can only be installed one way. Re-install electrical and Lid cover.

Step 8

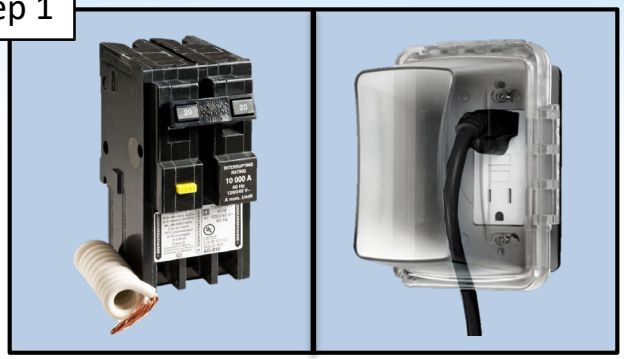
Apply power to pool equipment and hold down OZONE Bulb Life button for 15 seconds to reset the lamp life counter.

***Discard the lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.**

HAYWARD

Maintenance: Winterize HydraPure

Step 1

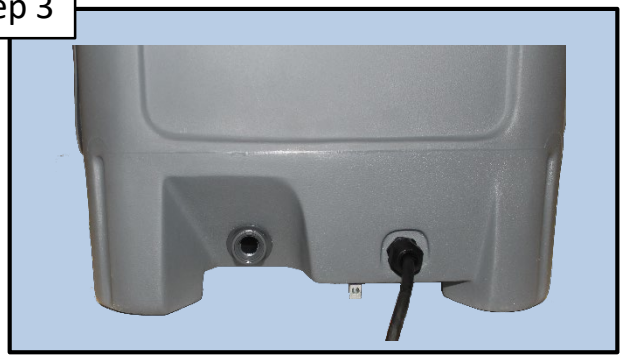


Turn off/unplug all power to the HydraPure and all other pool equipment. Make sure the pump will not re-activate.

Step 2

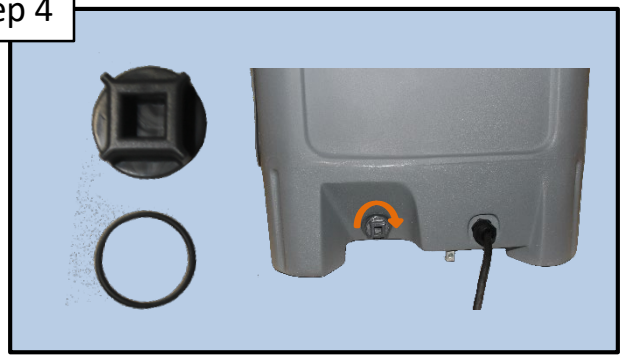
Remove the winterizing drain plug near the bottom of the unit. There will be an initial rush of water once plug is removed.

Step 3



Allow unit to completely drain. This process can take up to two (2) minutes.

Step 4



Once vessel is drained, re-install the drain plug hand tight only. Do NOT lose the plug O-ring.

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Troubleshooting Guide

Troubleshooting: Power and Flow LED's

LED	Status	Description
Power	Green	The unit is receiving power correctly. Note: this light is always on when power is connected.
Power	Off	The unit is not connected to power. If unit is connected to power check the ribbon cable connections.
Flow	Green	This indicates the flow sensing of the unit has activated. This is indication the flow sensing is working properly. This light will only light when proper flow is being applied to the unit.
Flow	Off	This indicated the unit is not sensing proper flow. This will be typical when the pump is shut off.

***To reset unit cycle power off and back on.**

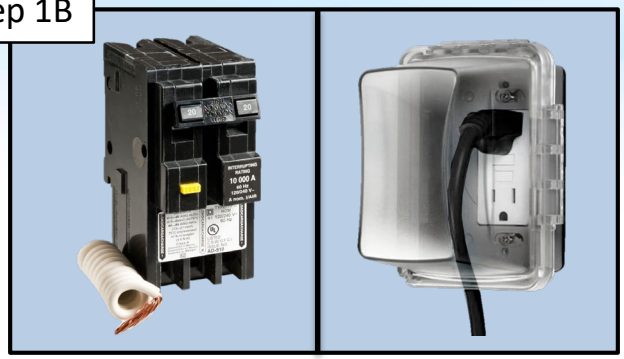
HAYWARD

Troubleshooting: Power LED Off

Step 1A

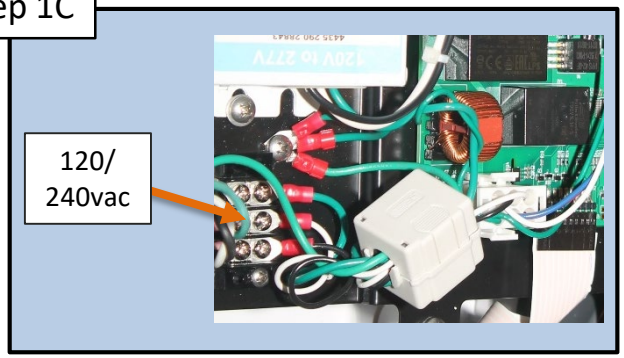
If Power LED is not illuminated, the unit typically does not have power applied to it.

Step 1B



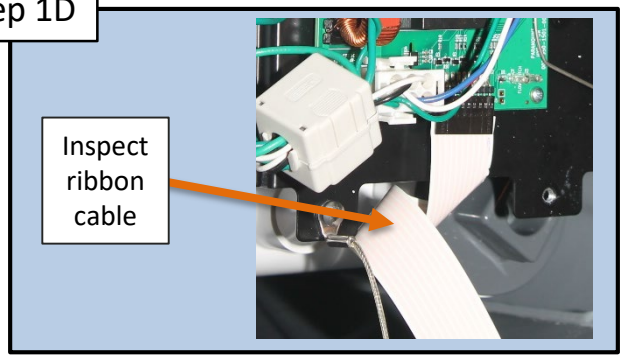
Verify the breaker is turned ON and/or the unit is plugged into the G.F.C.I receptacle.

Step 1C



Test applied voltage at the circuit board. If voltage is present, go to step 1D. If not, inspect wiring connections.

Step 1D



*Verify the display ribbon cable is plugged in and free of damage. If damage is found replace ribbon cable & keypad. If not, replace the PCB.

***The cable must be fully inserted and clipped into the membrane switch and control board. Keys should be facing up at the control board connection.**

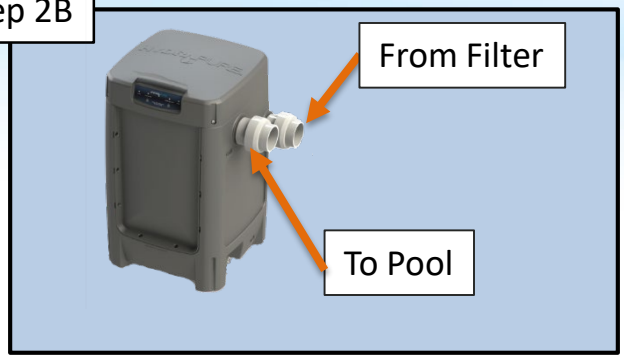
HAYWARD

Troubleshooting: Flow LED Off

Step 2A

Flow LED off typically indicates that the unit is not properly sensing water flow. Verify filter and strainer basket(s) are clean. Go to Step 2B

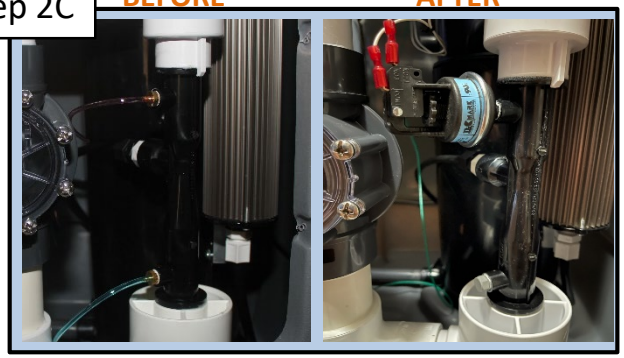
Step 2B



Verify pump is on and moving a min of 20 gallons per minute (gpm). Verify unit is plumbed correctly. Go to Step 2C.

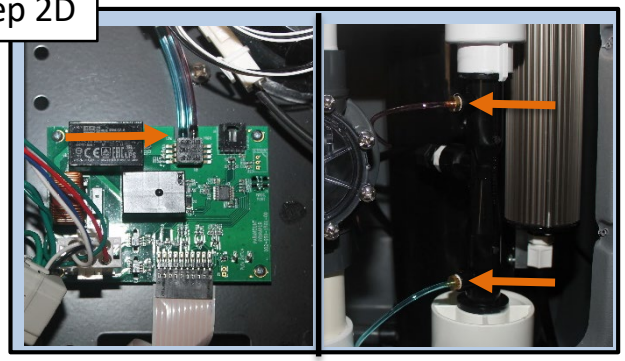
Step 2C

BEFORE AFTER



Verify the age of the unit. For serial numbers before 3X21153-8045543 go to Step 2D, for units after go to Step 2I

Step 2D



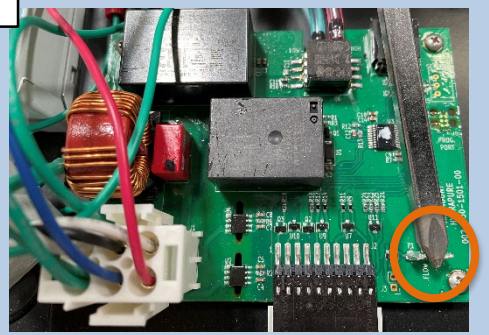
Verify the flow tubes are connected and free of damage. Replace if needed. Go to step 2E.

*Discard the lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.

HAYWARD

Troubleshooting: Flow LED Off

Step 2E

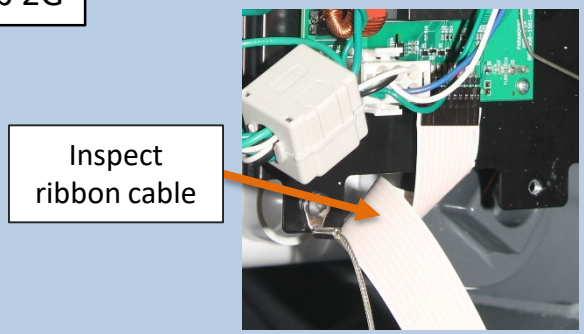


Using a metallic jumper, jump the 2 male pins shown above on PCB board. This bypasses the differential pressure sensor. Go to step 2F

Step 2F

If the unit came on, install Pressure switch kit Part #005-952-1501-00 (steps on page 35) - if unit did not come on go to step 2G

Step 2G



Verify the display ribbon cable is plugged in and free of damage. If damage is found replace ribbon cable & keypad. Go to Step 2G.

Step 2H

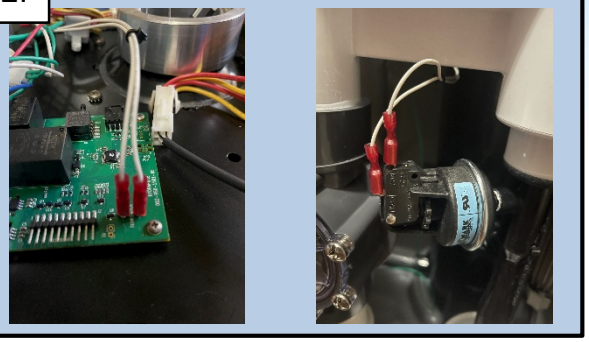
If everything else has checked out and unit still does not register flow, replace the PCB.

*Discard the lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.

HAYWARD

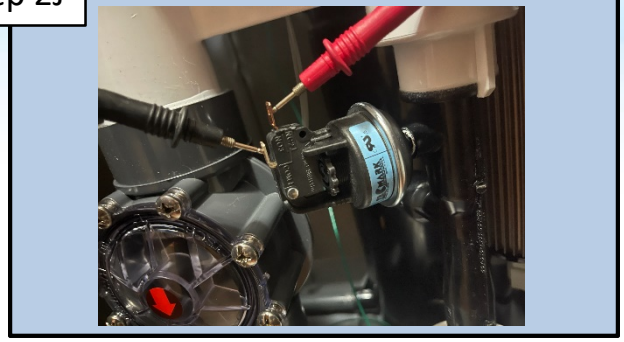
Troubleshooting: Flow LED Off

Step 2I



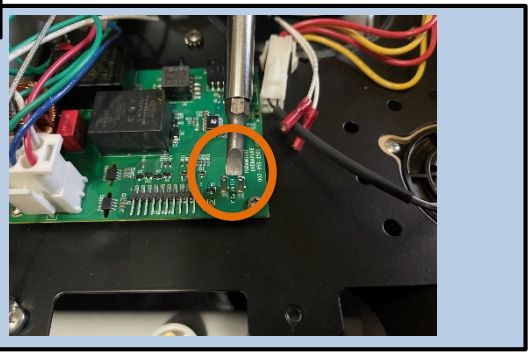
Inspect the water pressure switch wiring, ensuring wire harness terminals are securely fastened. IF damaged, replace wire harness. IF secure and free of damage, go to step 2J.

Step 2J



Remove wires from water pressure switch & measure continuity across terminals (while pump is running). If open, replace water pressure switch. If closed, go to Step 2K.

Step 2K



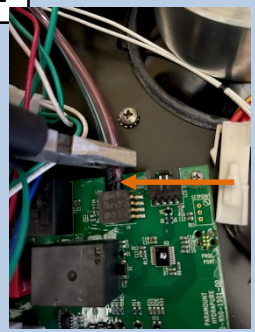
Using a metallic jumper, jump the 2 male pins shown above on PCB board. Unit will come on. Verify that all lamps are lit, if not go to Step 2G

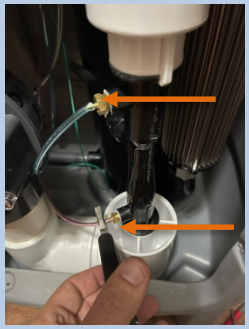
***Discard the lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.**

HAYWARD

How To: Install New Style Pressure Switch

Step 1

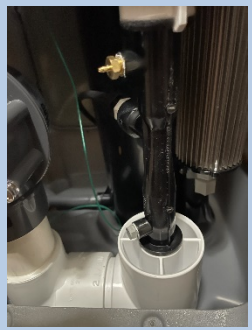




Cut the Red and Blue tubing off of the venturi Injector and off of the PCB and discard. Proceed to step 2

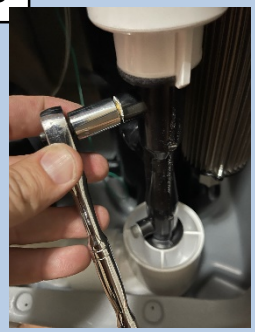
DO NOT PULL THE TUBING OFF OF THE PCB BOARD OR THE BARBED FITTINGS

Step 2



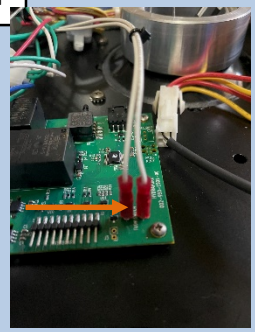
Using a 7/16 socket, remove the lower barb fitting. Use approved thread sealant and install the supplied ¼”NPT plug. Go to step 3

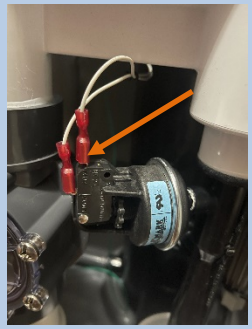
Step 3



Using a 7/16 socket, remove the upper barb fitting. Use approved thread sealant and install the pressure switch. Go to step 4

Step 4





Route wires through the rubber grommet and install on the PCB board labeled Flow Switch, and install the other end to pressure switch.

*Discard the lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.

HAYWARD

Troubleshooting: UV Bulb Life LED

LED	Status	Description
UV Bulb Life	Green	This indicates the UV system lamps are on and functioning correctly.
UV Bulb Life	Off	The UV lamps are not on, and should not be.
UV Bulb Life	Flashing Red/Green	Indicates the UV lamps need to be replaced. This is a good time to order replacement lamps.
UV Bulb Life	Flashing Red	Indicates the UV lamps are at a critical Life Level and the unit is no longer producing sanitization.
UV Bulb Life	Red	The UV lamps are not properly lit, and should be. There is a problem with the UV lamps.

***To reset unit cycle power off and back on.**

HAYWARD

Troubleshooting: UV Bulb Life LED (cont.)

Step 3A

LED off

When no flow is detected, LED and bulb should be off. They will remain off until flow has been detected.

Step 3B

LED flashing red/green

Bulbs are functioning properly, but is nearing the end of their life expectancy. Order replacement bulbs at this time.

Step 3C

LED flashing red/off

Bulbs have reached critical life level and MUST be replaced.

Step 3D

LED solid red

Bulbs should be on and are not. Flow Led should be on at this time. Move to step 3E.

HAYWARD

Troubleshooting: UV Bulb LED Solid Red (cont.)

Step 3E

Verify input voltage is within 10% nominal voltage. Correct if necessary. Go to step 3F.

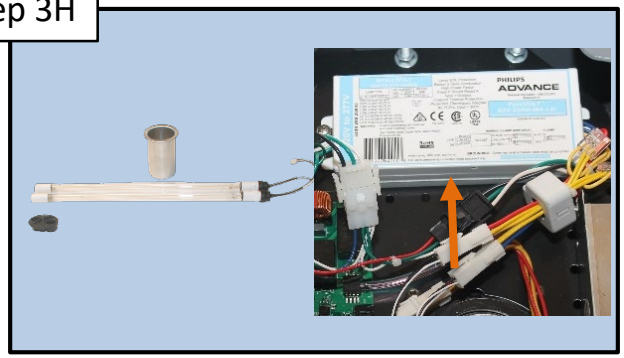
Step 3F

Check voltage at UV ballast input for 120V. If voltage is correct go to step 3G. If not replace PCB.

Step 3G

Verify UV Bulb plugs are securely connected. Go to step 3H.

Step 3H



Replace UV Bulbs. If still no light then replace the UV Bulb lamp ballast.

***Discard the lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.**

HAYWARD

Troubleshooting: Ozone Bulb Life LED

LED	Status	Description
Ozone Bulb Life	Green	This indicates the Ozone system lamp is on and functioning correctly.
Ozone Bulb Life	Off	The Ozone lamp not on, and should not be.
Ozone Bulb Life	Flashing Red/Green	Indicates the Ozone lamp needs to be replaced. This is a good time to order a replacement lamp.
Ozone Bulb Life	Flashing Red	Indicates the Ozone lamp is at a critical Life Level and the unit is no longer producing Ozone.
Ozone Bulb Life	Red	The Ozone lamp is not functioning properly, and should be. There is a problem with the Ozone lamp. See troubleshooting section.

***To reset unit cycle power off and back on.**

HAYWARD

Troubleshooting: Ozone Bulb Life LED (cont.)

Step 4A

LED off

When no flow is detected, LED and bulb should be off. They will remain off until flow has been detected.

Step 4B

LED flashing red/green

Bulb is functioning properly, but is nearing the end of it's life expectancy. Order a replacement bulb at this time.

Step 4C

LED flashing red/off

Bulb has reached critical life level and MUST be replaced.

Step 4D

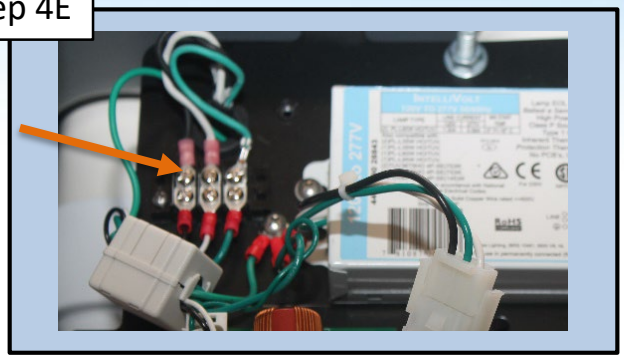
LED solid red

Bulb should be on and is not. Inspect bulb and replace if necessary. If ok, go to step 4E.

HAYWARD

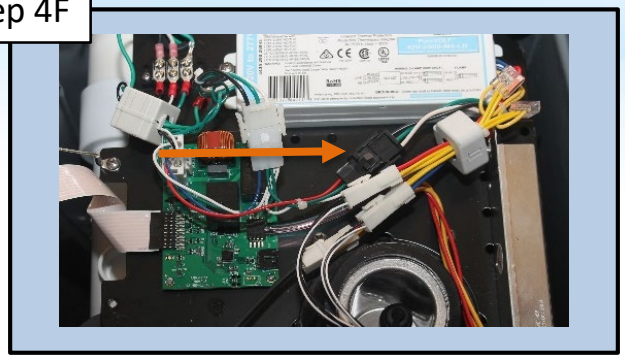
Troubleshooting: Ozone Bulb LED Solid Red (cont.)

Step 4E



Verify input voltage is within 10% nominal voltage. Correct if necessary. Go to step 4F.

Step 4F

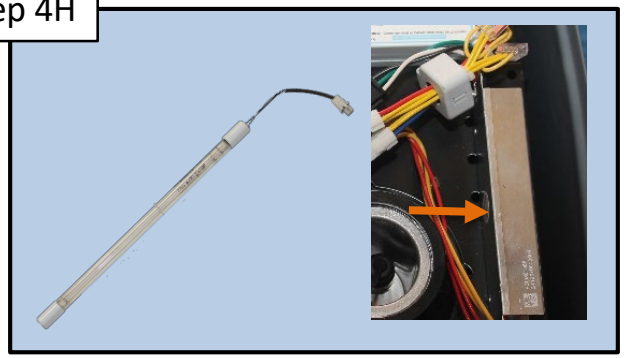


Check voltage at black Ozone ballast input for 120V. If correct go to step 4G. If not, replace PCB.

Step 4G

Verify Ozone Bulb plugs are securely connected. Go to step 4H.

Step 4H



Replace Ozone lamp. If still no light then replace the Ozone lamp ballast.

*Discard the lamp(s) appropriately. Visit www.lamprecycle.org for instructions on disposal.

HAYWARD

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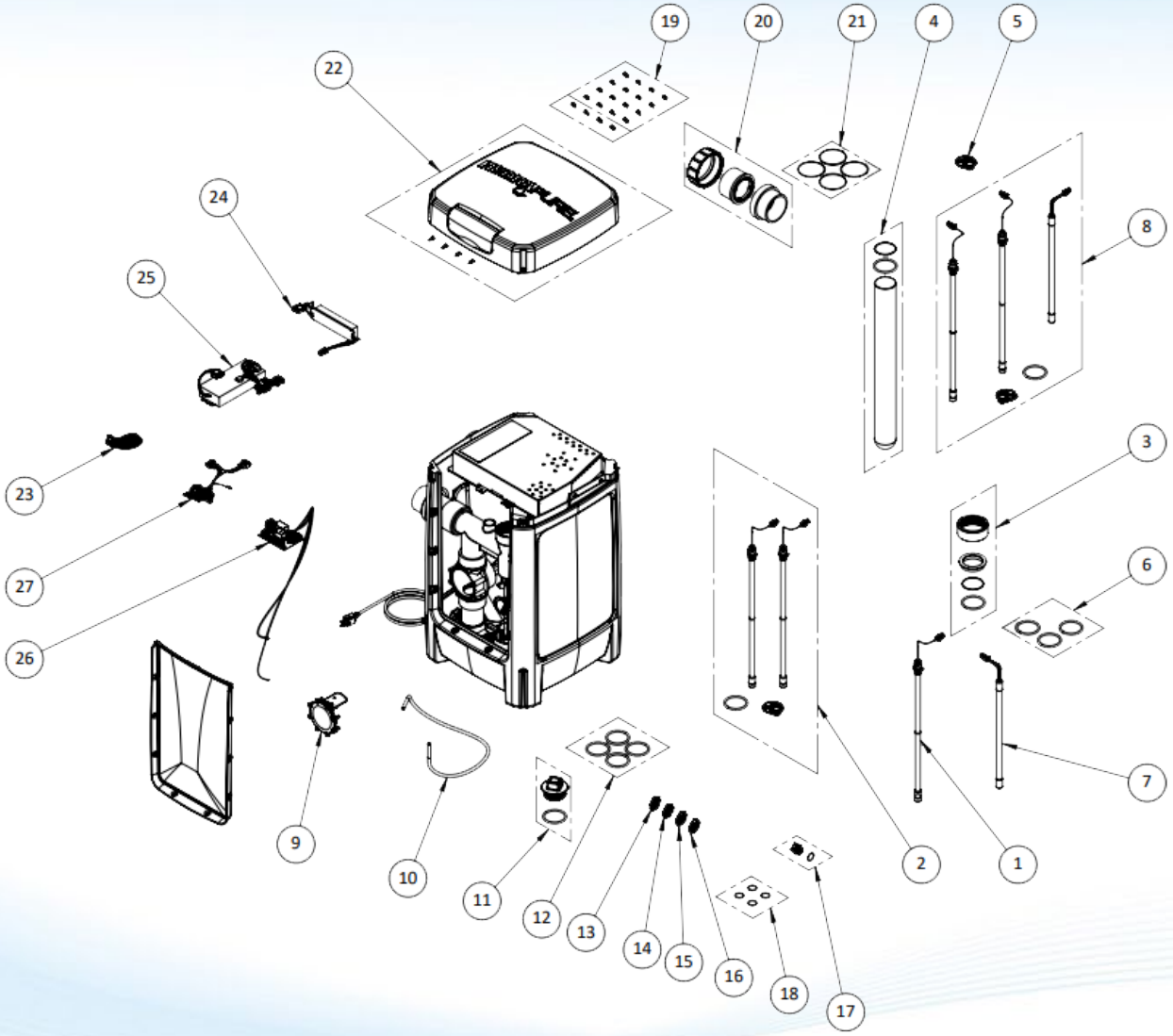
Parts Breakdown

Parts Breakdown: Exploded View



HAYWARD

Parts Breakdown: Parts List

Ref #	Part #	Description
1	005422901700	Lamp UV/Hydra 1pc
2	005422901500	Lamp UV/Hydra 2pc w/Boot & O-ring
3	005422510200	Nut & Washer UV/Hydra
4	005422200909	Quartz Tube w/ O-ring & Cushion
5	005422427100	Boot F/2Lamp
6	005422510300	Seal Kit Quartz Tube
7	005952123000	Lamp Only 1pc Hydra/O3
8	005952902400	Lamp Kit 3pc w/Boot & O-ring, UV &O3
9	005252829000	Check Valve Swing 5lb w/Springs, No Body
10	005952125000	Tubing 3/8x24 Flexelene
11	005252164000	Plug 2” w/O-ring
12	005252016000	O-ring -331 EPDM 70 F/Plug 2” 4pk
13	005402250500	Check Valve 1lb 1/4NPT x 3/8COMP
14	005402250600	Check Valve 2lb 1/4NPT x 3/8COMP

Parts Breakdown: Parts List (cont.)

Ref #	Part #	Description
15	005401250300	Check Valve 3lb 1/4NPT x 3/8COMP
16	005401250400	Check Valve 4lb 1/4NPT x 3/8COMP
17	005952291500	Plug Drain ½” w/O-ring
18	005952291700	O-ring F/Drain Plug 1/2” 4pk
19	005952832500	Screw Panel/Lid 16+4pk
20	005252832000	Union 2.5 Kit (1pc) w/O-ring
21	005252831500	O-ring 2-232 F/2.5” Union 4pk
22	005952140100	Lid Top w/Membrane Switch & Screws
23	005952147100	Cable Ribbon F/Membrane Switch
24	005952157000	Ballast w/Wires, Ozone
25	005422386500	Ballast w/Wires, UV
26	005952150100	Board w/Tubes & Sensor
27	005952158100	Wire Harness