



SERIES CL100/110 SERIES CL200/220 by HAYWARD® AUTOMATIC CHLORINE FEEDERS



Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

Basic safety precautions should always be followed, including the following: Failure to follow instructions can cause severe injury and/or death.

- ⚠ This is the safety-alert symbol. When you see this symbol on your equipment or in this manual, look for one of the following signal words and be alert to the potential for personal injury.
- ⚠ **WARNING** warns about hazards that **could** cause serious personal injury, death or major property damage and if ignored presents a potential hazard.
- ⚠ **CAUTION** warns about hazards that **will** or **can** cause minor or moderate personal injury and/or property damage and if ignored presents a potential hazard. It can also make consumers aware of actions that are unpredictable and unsafe.
- ⚠ **DANGER** indicates an imminently hazardous situation which, if not avoided, **will** result in death, serious injury, or major property damage.

The **NOTICE** label indicates special instructions that are important but not related to hazards.

Hayward Pool Products
620 Division Street, Elizabeth, NJ 07207
Phone: (908) 351.5400
www.haywardpool.com



⚠ WARNING - Read and follow all instructions in this owner's manual and on the equipment. Failure to follow instructions can cause severe injury and/or death.

⚠ WARNING – Suction Entrapment Hazard.



Suction in suction outlets and/or suction outlet covers which are, damaged, broken, cracked, missing, or unsecured can cause severe injury and/or death due to the following entrapment hazards:



Hair Entrapment- Hair can become entangled in suction outlet cover.

Limb Entrapment- A limb inserted into an opening of a suction outlet sump or suction outlet cover that is damaged, broken, cracked, missing, or not securely attached can result in a mechanical bind or swelling of the limb.



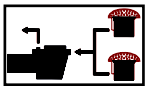
Body Suction Entrapment- A negative pressure applied to a large portion of the body or limbs can result in an entrapment.

Evisceration/ Disembowelment - A negative pressure applied directly to the intestines through an unprotected suction outlet sump or suction outlet cover which is, damaged, broken, cracked, missing, or unsecured can result in evisceration/ disembowelment.



Mechanical Entrapment- There is potential for jewelry, swimsuit, hair decorations, finger, toe or knuckle to be caught in an opening of a suction outlet cover resulting in mechanical entrapment.

⚠ WARNING - To Reduce the risk of Entrapment Hazards:



- o When outlets are small enough to be blocked by a person, a minimum of two functioning suction outlets per pump must be installed. Suction outlets in the same plane (i.e. floor or wall), must be installed a minimum of three feet (3') [1 meter] apart, as measured from near point to near point.
- o Dual suction fittings shall be placed in such locations and distances to avoid “dual blockage” by a user.
- o Dual suction fittings shall not be located on seating areas or on the backrest for such seating areas.
- o The maximum system flow rate shall not exceed the flow rating of as listed on Table 1.
- o Never use Pool or Spa if any suction outlet component is damaged, broken, cracked, missing, or not securely attached.
- o Replace damaged, broken, cracked, missing, or not securely attached suction outlet components immediately.
- o In addition two or more suction outlets per pump installed in accordance with latest ASME, APSP Standards and CPSC guidelines, follow all National, State, and Local codes applicable.
- o Installation of a vacuum release or vent system, which relieves entrapping suction, is recommended.

⚠ WARNING – Failure to remove pressure test plugs and/or plugs used in winterization of the pool/spa from the suction outlets can result in an increase potential for suction entrapment as described above.

⚠ WARNING – Failure to keep suction outlet components clear of debris, such as leaves, dirt, hair, paper and other material can result in an increase potential for suction entrapment as described above.

⚠ WARNING – Suction outlet components have a finite life, the cover/grate should be inspected frequently and replaced at least every ten years or if found to be damaged, broken, cracked, missing, or not securely attached.

⚠ CAUTION – Components such as the filtration system, pumps and heater must be positioned so as to prevent their being used as means of access to the pool by young children.

⚠ WARNING – Never operate or test the circulation system at more than 50 PSI.

⚠ WARNING – Never change the filter control valve position while the pump is running.

⚠ WARNING – To reduce risk of injury, do not permit children to use or climb on this product. Closely supervise children at all times. Components such as the filtration system, pumps, and heaters must be positioned to prevent children from using them as a means of access to the pool.



⚠ WARNING – Hazardous Pressure. Pool and spa water circulation systems operate under hazardous pressure during start up, normal operation, and after pump shut off. Stand clear of circulation system equipment during pump start up. Failure to follow safety and operation instructions could result in violent separation of the pump housing and cover, and/or filter housing and clamp due to pressure in the system, which could cause property damage, severe personal injury, or death. Before servicing pool and spa water circulation system, all system and pump controls must be in off position and filter manual air relief valve must be in open position. Before starting system pump, all system valves must be set in a position to allow system water to return back to the pool. Do not change filter control valve position while system pump is running. Before starting system pump, fully open filter manual air relief valve. Do not close filter manual air relief valve until a steady stream of water (not air or air and water) is discharged.



⚠ WARNING – Separation Hazard. Failure to follow safety and operation instructions could result in violent separation of pump and/or filter components. Strainer cover must be properly secured to pump housing with strainer cover lock ring. Before servicing pool and spa circulation system, filters manual air relief valve must be in open position. Do not operate pool and spa circulation system if a system component is not assembled properly, damaged, or missing. Do not operate pool and spa circulation system unless filter manual air relief valve body is in locked position in filter upper body.

USE ONLY GENUINE HAYWARD PARTS



⚠ WARNING – Risk of Electric Shock. All electrical wiring **MUST** be in conformance with applicable local codes, regulations, and the National Electric Code (NEC). Hazardous voltage can shock, burn, and cause death or serious property damage. To reduce the risk of electric shock, do **NOT** use an extension cord to connect unit to electric supply. Provide a properly located electrical receptacle. Before working on any electrical equipment, turn off power supply to the equipment.

⚠ WARNING – To reduce the risk of electric shock replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers and other equipment.

⚠ WARNING – Electrical ground all electrical equipment before connecting to electrical power supply. Failure to ground all electrical equipment can cause serious or fatal electrical shock hazard.

⚠ WARNING – Do **NOT** ground to a gas supply line.

⚠ WARNING – To avoid dangerous or fatal electrical shock, turn **OFF** power to all electrical equipment before working on electrical connections.

⚠ WARNING – Failure to bond all electrical equipment to pool structure will increase risk for electrocution and could result in injury or death. To reduce the risk of electric shock, see installation instructions and consult a professional electrician on how to bond all electrical equipment. Also, contact a licensed electrician for information on local electrical codes for bonding requirements.

Notes to electrician: Use a solid copper conductor, size 8 or larger. Run a continuous wire from external bonding lug to reinforcing rod or mesh. Connect a No. 8 AWG (8.4 mm²) [No. 6 AWG (13.3 mm²) for Canada] solid copper bonding wire to the pressure wire connector provided on the electrical equipment and to all metal parts of swimming pool, spa, or hot tub, and metal piping (except gas piping), and conduit within 5 ft. (1.5 m) of inside walls of swimming pool, spa, or hot tub.

IMPORTANT - Reference NEC codes for all wiring standards including, but not limited to, grounding, bonding and other general wiring procedures.

⚠ WARNING – Risk of Electric Shock. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI.

⚠ WARNING – Risk of Electric Shock . The electrical equipment must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the electrical equipment without the test button being pushed, a ground current is flowing, indicating the possibility of an electrical shock. Do not use this electrical equipment. Disconnect the electrical equipment and have the problem corrected by a qualified service representative before using.

⚠ CAUTION – The pump is intended for use with permanently-installed pools and may be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity.

SAVE THESE INSTRUCTIONS

HAYWARD® Pool Products Limited Warranty

To original purchasers of this equipment, Hayward Pool Products, Inc. warrants its chemical feeders to be free from defects in materials and workmanship for a period of ONE (1) year from the date of purchase, when used in single family residential applications.

The limited warranty excludes damage from freezing, negligence, improper installation, improper use or care or any Acts of God. Parts that fail or become defective during the warranty period shall be repaired or replaced, at our option, within 90 days of the receipt of defective product, barring unforeseen delays, without charge.

Proof of purchase is required for warranty service. In the event proof of purchase is not available, the manufacturing date of the product will be the sole determination of the purchase date.

To obtain warranty service, please contact the place of purchase or the nearest Hayward Authorized Service Center. For assistance on your nearest Hayward Authorized Service Center please visit us at www.haywardpool.com.

Hayward shall not be responsible for cartage, removal, repair or installation labor or any other such costs incurred in obtaining warranty replacements or repair.

The Hayward Pool products warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply.


The express limited warranty above constitutes the entire warranty of Hayward Pool Products with respect to its' pool products and is in lieu of all other warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose. In no event shall Hayward Pool products be responsible for any consequential, special or incidental damages of any nature.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.


***Supersedes all previous publications.**


Hayward Pool Products
620 Division Street
Elizabeth, NJ 07207


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 **⚠ DANGER** Mixing Chemicals or using fast dissolving chemicals may result in explosion and/or fire. To avoid death, serious injury or major property damage:

- ▲ Use only slow dissolving Trichlor Chlorine tablets.
- ▲ Never use fast dissolving Trichlor Chlorine tablets.
- ▲ Never mix chemicals.
- ▲ Never mix Trichlor Chlorine tablets with Calcium Hypochlorite, or with any other form of concentrated chlorine or other chemicals. Fire and/or explosion may result.
- ▲ Never add any other types of chlorine, pH adjusters, shock treatments or algaecides through the skimmer. If these products must be used, they should be added directly into the pool water.
- ▲ Never isolate chlorine feeder with valves or other devices.

 **⚠ WARNING** Wear eye and skin protection while maintaining or servicing this unit.

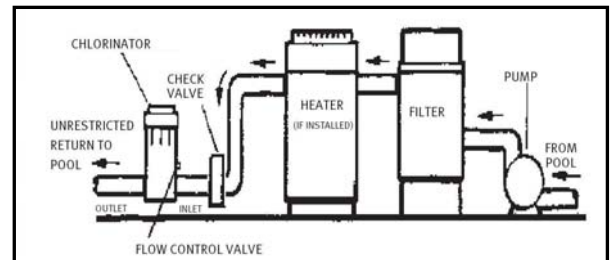
 **⚠ WARNING** Do not inhale fumes from the chlorinator or chemical container.


 **⚠ WARNING** Chlorine feeder may be under pressure. Use caution removing cover.

INSTALLATION:

CL-100/200

1. Your CL-100/200 automatic chlorine feeder is designed for permanent installation in the pool water return line.
2. Always install the chlorine feeder **after** the heater. If there is no heater, install **after** the filter.




 **⚠ CAUTION** Damage to the heater or filter may result if concentrated chlorine is allowed to flow through them.

An in-line positive seal corrosion resistant check valve should be installed to reduce backflow of chlorine gas when the system is shut off. If the chlorine feeder is located below water level, you may want to install a check valve to prevent water backflow when operating/servicing the unit. The CL100 has this feature built in.

3. Both the CL-100/200 are furnished with 1 1/2" female threads. If PVC socket (solvent weld) connections are desired, order SP1500UNPAK2, socket flush union end connectors package. For threaded male and union connectors, order SP1500UNMPAK1 male union connector package (two required). Thread or socket adapters may also be used. Only use pipe sealants formulated and approved for use with ABS plastic connections (e.g. Teflon Tape, Permatex Form-A-Gasket No. 2, Laco Plasto-Joint stick). Do not over tighten pipe fitting. Proper fitting makeup is hand tight plus 1 to 1 1/2 turns maximum.

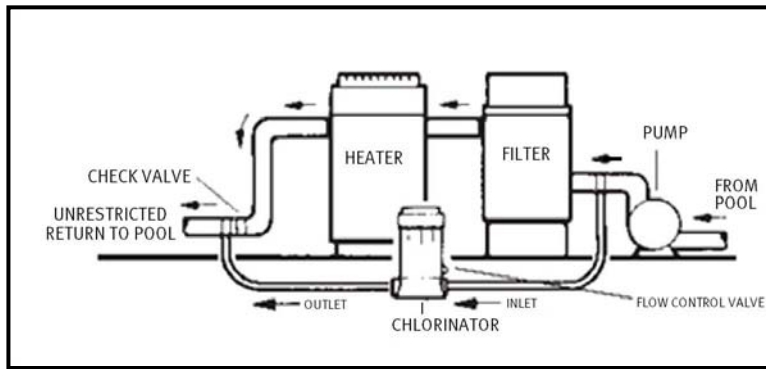
NOTICE: After starting up system, re-check all connections for leaks. Re-tighten as required.

 **⚠ CAUTION** Never install chlorine feeder directly into copper plumbing as pipe damage may occur. If you have brass or bronze backwash valves, or other sensitive metallic components, consult your dealer for precautions or recommendations for your particular system.

CL-110/220

1. The inlet connection should be made in the piping after the pump and before the filter. Mark location on pipe.
2. The outlet connection should be made in the piping after the heater. If no heater is being used, connection should be made after the filter. Mark location on pipe.
3. Based on the locations from steps. No. 1 and No. 2, cut tubing to required lengths. Be sure ends are cut evenly and cleanly.
4. Wrap Teflon tape on larger male thread of Check Valve and thread it hand tight plus 1/2 turn into outlet port of chlorinator. **DO NOT OVER TIGHTEN.**

NOTICE: The Check Valve is marked with a "dot". It also has a ball that "clicks" when you shake it.



5. Wrap Teflon tape on larger male thread of the Inlet Fitting Adapter and thread it hand tight plus 1/2 turn into the inlet port of chlorinator. **DO NOT OVER TIGHTEN.**
6. To connect inlet tubing to chlorinator, place Compression Nut over inlet tubing and slide nut up about 2". Insert the tubing all the way into the Inlet Fitting Adapter socket and, holding tubing in place, tighten nut firmly by hand. Do not over tighten.
7. Connect outlet tubing to the Check Valve in the same manner as in step 6 above.

NOTICE: The saddle fittings and clamps are designed to fit the O.D. of 1 1/2" or 2" pipe.

8. Drill a 3/8" hole at location identified in Step 1 of Planning Installation section. Clean all burrs, shavings etc. Fit Saddle Fitting, with gasket, into oval shaped hole in clamp and insert fitting into the 3/8" hole. Secure clamp around Saddle Fitting, gasket and pipe and tighten securely to achieve a good seal. Do not over tighten clamp.
9. Drill a 3/8" hole at location identified in Step 2 of Installation section for CL-110/220. Install Saddle Fitting as in Step 8 above.
10. Connect inlet and outlet tubing to the Saddle Fittings with Compression Nuts as in Step 6 above. Do not over tighten.

▲ CAUTION Never install chlorine feeder directly into copper plumbing as pipe damage may occur. If you have brass or bronze backwash valves, or other sensitive metallic components, consult your dealer for precautions or recommendations for your particular system.

NOTICE: After starting up system, re-check all connections for leaks. Re-tighten as required.

DIRECTIONS FOR USE:

GENERAL

Before using your chlorinator, your pool/spa water should be properly balanced and conditioned and should have a chlorine residual of approximately 1.0 to 1.5 ppm. Follow dealer and chemical manufacturer's directions and instructions.

Check chlorine residual daily and adjust the dial valve for more or less chlorine. The chlorine demand for pools and spas varies based on usage, temperature, sunlight, etc. Initially, you'll have to experiment to determine the proper amount of chlorine and the correct valve setting required for your pool and filter time cycle. Follow chemical manufacturer's instructions for proper chlorine level.

▲ DANGER Mixing Chemicals or using fast dissolving chemicals may result in explosion and/or fire.

To avoid death, serious injury or major property damage:

- ▲ Use only slow dissolving Trichlor Chlorine tablets.
- ▲ Never use fast dissolving Trichlor Chlorine tablets.
- ▲ Never mix chemicals.
- ▲ Never mix Trichlor Chlorine tablets with Calcium Hypochlorite, or with any other form of concentrated chlorine or other chemicals. Fire and/or explosion may result.
- ▲ Never add any other types of chlorine, pH adjusters, shock treatments or algaecides through the skimmer. If these products must be used, they should be added directly into the pool water.
- ▲ Never isolate chlorine feeder with valves or other devices.

▲ WARNING Wear eye and skin protection while maintaining or servicing this unit.

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- ▲WARNING** Do not inhale fumes from the chlorinator or chemical container.
- ▲WARNING** Chlorine feeder may be under pressure. Use caution removing cover.

REFILLING CHORINATOR

1. Shut off all pumps and pump timers.
2. Turn chlorine feeder flow control valve to “OFF”.
3. Verify chlorine feeder return line to pool is unrestricted.
4. Wait one minute to relieve system pressure before attempting to remove cover.
5. If installed in a flooded system, shut off valves to isolate chlorinator.
6. Remove cover.
7. Refill chlorine feeder with slow dissolving Trichlor-Chlorine Tablets.
8. Secure cover to chlorine feeder.
9. If installed in a flooded system, open valves to assure flow from pump to pool.
10. Turn flow control valve on chlorinator to desired setting and restart pump.

MAINTENANCE:

TO CHANGE O-RING CL100/110

1. Read and follow instructions in Steps 1 to 5 in Refilling Chlorinator section.
2. Remove the O-Ring and replace with a Genuine Hayward Part O-Ring (part no. CLX110K).
3. Replace cover. If chlorinator needs to be refilled, read and follow instructions in Steps 6 to 8 in Refilling chlorinator section.

TO CHANGE O-RING CL200/220

1. Read and follow instructions in Steps 1 to 5 in Refilling Chlorinator section.
2. Pry off Logo Cap, located on the cover of the chlorinator. Unscrew and remove retainer screw. Cover may now be slipped free of the Cover Cap.
3. Replace O-ring with a Genuine Hayward Part O-ring (part no. CLX200K). Reassemble being sure Slip Washers are in place on stem of Cover (inside), and under head of Retaining Screw.
4. Replace cover. If chlorinator needs to be refilled, read and follow instructions in Steps 6 to 8 in Refilling Chlorinator section.

TO REMOVE FLOW CONTROL VALVE HANDLE

Set pointer to FULL. Insert screwdriver in slot opposite pointer, lift up and rotate handle counterclockwise. This allows the handle index lock tab to clear the body ridge.

TO INSTALL FLOW CONTROL VALVE HANDLE

1. The flow control valve handle Genuine Hayward Part (CLX200PA) is furnished in two pieces.
2. To install push the handle into the stem and fully install stem into body. You may have to remove handle and reposition to assure the stem is fully seated.
3. Remove handle by pulling straight out.
4. Apply a single drop of Super Glue to the end of the stem, push on handle, positioned in the OFF position. Apply pressure for 30 seconds.

WINTERIZING

Where freezing temperatures can be expected, drain all water and remove all chlorine from chlorinator. (For in-line permanently installed unit remove drain plug). Carefully remove all tablets and pieces of tablets. Rinse out chlorinator thoroughly with water. Replace cover and drain plug.

VACUUMING

When vacuuming, close flow control valve to prevent bypass of sediment and possible clogging of control valve.

LUBRICATION

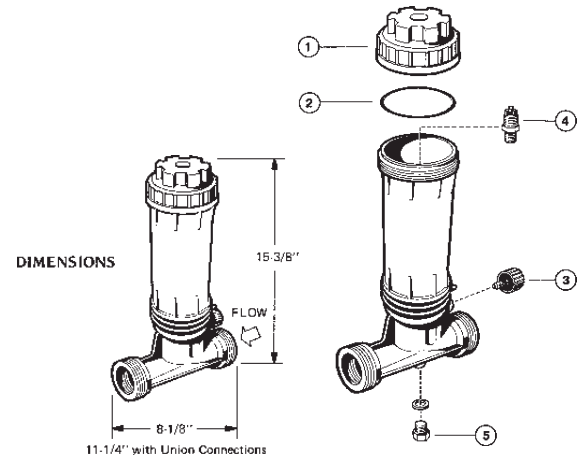
Never use petroleum type lubricants on Cover O-Ring. To lubricate use Genuine Hayward Part Jack’s Lube No. 327 (Part No. SP032712).

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SPARE PARTS

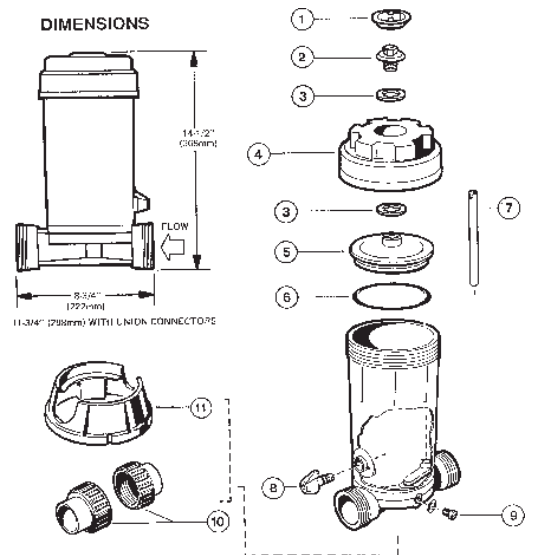
CL100

Ref No.	Part Number	Description	No. Req'd
1	CLX110C	Cover	1
2	CLX110K	O-Ring	1
3	CLX110FA	Control Knob Assembly	1
4	CLX220CV	Check Valve Assembly	1
5	SPX1700FGV	Drain Plug w/Gasket	1
	SP032712	Hayward Jack's Lub #327	1



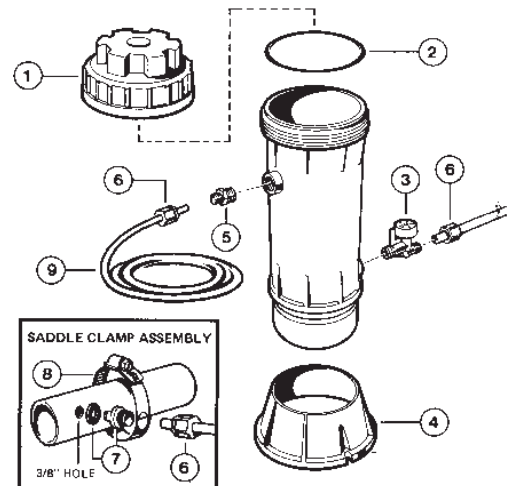
CL200

Ref No.	Part Number	Description	No. Req'd
1	CLX200E	Logo Cap	1
2	CLX200G	Cover Retaining Screw	1
3	CLX200W	Slip Washer	2
4	CLX200C	Cover Cap	1
5	CLX200B	Cover	1
6	CLX200K	O-Ring	1
7	CLX200H	Feeder Tube (some models)	1
8	CLX200PA	Control Valve Assembly	1
9	SPX1700FA	Drain Plug w/Gasket	1
10	SPX1500UNPAK	Union Connectors--Socket (2)	-
11	CLX200BS	Base	1
	SP032712	Hayward Jack's Lub #327	1



CL110

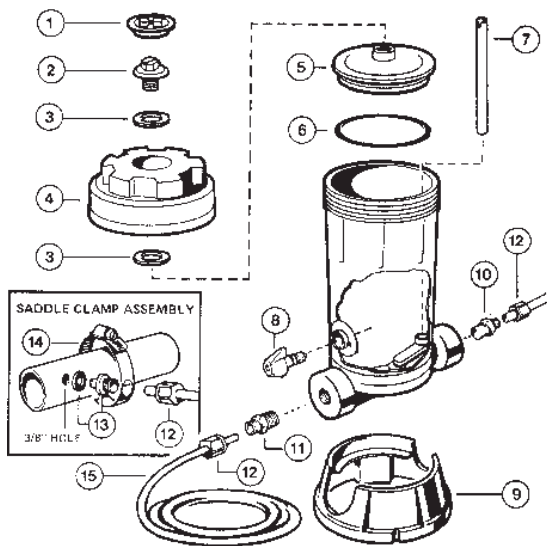
Ref No.	Part Number	Description	No. Req'd
1	CLX100C	Cover	1
2	CLX110K	O--Ring	1
3	CLX110DA	Dial Flow Valve	2
4	CLX110B	Base	1
5	CLX220CV	Check Valve Assembly	1
6	CLX220H	Compression Nuts	4
7	CLX220G	Saddle Fitting	2
8	CLX220K	Saddle Clamp	2
9	CLX220J	Plastic Tubing--8 Ft.	1
	SP032712	Hayward Jack's Lub #327	1



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CL220

Ref No.	Part Number	Description	No. Req'd
1	CLX200E	Logo Cap	1
2	CLX200G	Cover Retaining Screw	1
3	CLX200W	Slip Washer	2
4	CLX200C2	Cover Cap	1
5	CLX200B	Cover	1
6	CLX200K	O-Ring	1
7	CLX200H	Feeder Tube (some models)	1
8	CLX200PA	Control Valve Assembly	1
9	CLX220B	Base	1
10	CLX220CV	Check Valve Assembly	1
11	CLX220D	Inlet Fitting Adapter	1
12	CLX220H	Compression Nuts	4
13	CLX220G	Saddle Fitting	2
14	CLX220K	Saddle Clamp	2
15	CLX220J	Plastic Tubing—8 ft.	1
	SP032712	Hayward Jack's Lub #327	1



PRODUCT REGISTRATION

(Retain For Your Records)

DATE OF INSTALLATION _____

▲ Retain this Warranty Certificate (upper portion) in a safe and convenient location for your records.



DETACH HERE: Fill out bottom portion completely and mail within 10 days of purchase/installation or register online.

AUTOMATIC CHLORINE FEEDERS

Warranty Card Registration

Register online at www.haywardpool.com

Please Print Clearly:

First Name _____ Last Name _____
 Street Address _____
 City _____ State _____ Zip _____
 Phone Number _____ Purchase Date _____
 E-Mail Address _____

Serial Number

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Model Number _____

Pool Capacity _____ (U.S. Gallons)

Please include me on all e-mail communications regarding Hayward® Equipment or promotions.

Mail to: Hayward Pool Products, 620 Division Street, Elizabeth, NJ 07207

Attn: Warranty Dept

Or REGISTER YOUR WARRANTY ON-LINE AT WWW.HAYWARDPOOL.COM

Years Pool has been in service
 < 1 year 1-3 4-5 6-10 11-15 >15

Purchased from _____
 Builder Retailer Pool Service Internet/Catalog

Company Name _____
 Address _____
 City _____ State _____ Zip _____
 Phone _____

Type of Pool:
 Concrete/Gunite Vinyl Fiberglass
 Other _____

New Installation Replacement

Installation for:
 In Ground Above Ground Spa



Hayward is a registered trademark of Hayward Industries, Inc.



HI-FLOW™

SIDE MOUNTED BACKWASH VALVE

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

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WARNING Before installing this product, read and follow all warning notices and instructions accompanying this valve. Failure to follow safety warning and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.

IMPORTANT NOTICE!
Attention Installer: This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

DANGER The valve must be installed by a qualified serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances.

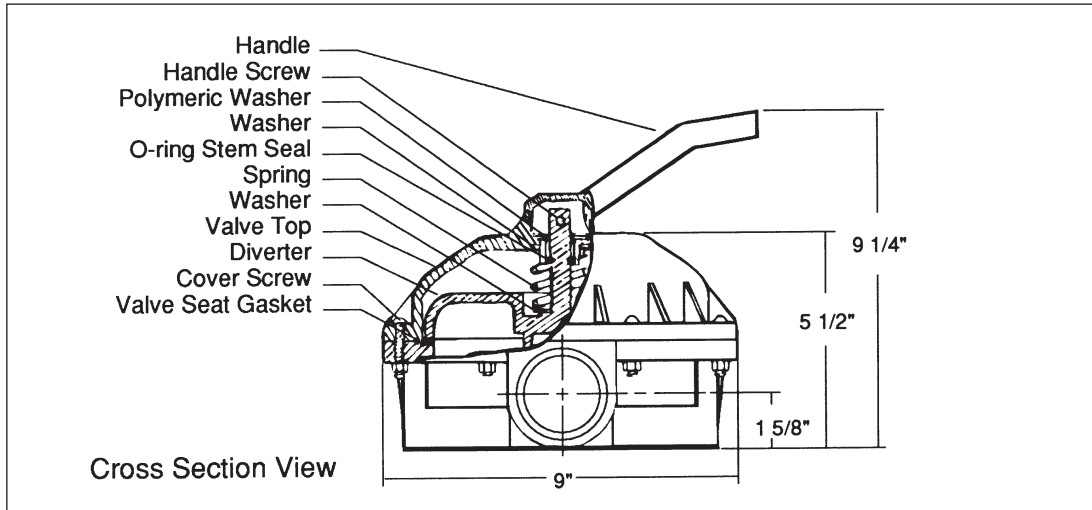


Always disconnect power to the equipment at the circuit breaker before servicing any of the equipment. Ensure that the disconnected circuit is locked out or properly tagged so that it cannot be switched on while you are working on the equipment. Failure to do so could result in serious injury or death to serviceman, operator users or others due to electric shock.
Position the filter and the air relief valve to safely direct water drainage and purged air or water. Water discharged from an improperly positioned filter or valve can create an electrical hazard that can cause severe personal injury as well as damage property.

CAUTION For Installation of Electrical Controls at Equipment Pad (ON/OFF Switches, Timers and Automation Load Center)



Install all electrical controls at equipment pad, such as on/off switches, timers, and control systems, etc. to allow the operation (startup, shut-down, or servicing) of any pump or filter so the user does not place any portion of his/her body over or near the pump strainer lid, filter lid or valve closures. This installation should allow the user enough space to stand clear of the filter and pump during system start-up, shut down or servicing of the system filter.



WARNING



FILTER OPERATES UNDER HIGH PRESSURE.

When any part of the circulating system, (e.g., clamp, pump, filter, valve(s), etc.), is serviced, air can enter the system and become pressurized. Pressurized air can cause the lid to separate which can result in severe injury, death, or property damage. To avoid this potential hazard, follow these instructions:

1. Before repositioning valve(s) and before beginning the assembly, disassembly, or adjustment of the clamp or any other service of the circulating system: (A) Turn the pump **OFF** and **shut OFF** any automatic controls to ensure the system is NOT inadvertently started during the servicing; (B) open the manual air relief valve; (C) wait until all pressure is relieved.
2. Whenever installing the filter clamp **FOLLOW THE FILTER CLAMP INSTALLATION INSTRUCTIONS EXACTLY.**
3. Once service on the circulating system is complete **FOLLOW SYSTEM RESTART INSTRUCTIONS EXACTLY.**
4. Maintain circulation system properly. Replace worn or damaged parts immediately, [e.g., clamp, pressure gauge, valve(s), o-rings, etc].
5. Be sure that the filter is properly mounted and positioned according to instructions provided.

Valve Positions Overview

SETTING	FLOW PATH Function
Filter	Pump > Sand Top / DE Bottom > Through Filter > DE Top / Sand Bottom > Return For normal filter action and vacuuming pool thru filter.
Backwash	Pump > DE Top / Sand Bottom > Through Filter > Sand Top / DE Bottom > Waste For cleaning filter by reversing flow
Rinse	Pump > DE Top / Sand Bottom > Through Filter > DE Top / Sand Bottom > Waste For start-up cleaning and resetting filter bed after backwashing
Waste	Pump > Waste For vacuuming directly to waste, lowering pool level or draining pool
Closed	No Circulation - DO NOT USE THIS SETTING WITH PUMP OPERATING!
Recirculate	Pump > Return For circulating water without going through filter

Valve Installation

CAUTION This valve is available in two models for use with sand type or diatomaceous earth (DE) type pool filters. Be sure that you have the correct model for your filter. Installing the incorrect model may cause your pump to dead head, or drain the pool when in backwash position.

1. Confirm correct valve is being used; DE valves for DE filters and Sand valves for Sand filters.
2. Install valve to filter by securing bulkhead nuts on valve to fittings on the filter.

CAUTION Tighten the nuts by hand only! No additional tightness is required.

3. Plumb pump piping to center pipe in valve.
4. Plumb return and waste lines.

Winterizing

1. Drain and winterize pump and filter per manufacturer's instructions.
2. Depress valve handle and rotate so pointer on handle is between any two settings.

Replacement of Valve Top and Diverter Assembly

1. Set valve handle in any setting.
2. Remove cover screws.
3. Lift off valve top and diverter assembly.
4. Install new valve top and diverter assembly. Be sure arrows on valve top and bottom are aligned.
5. Tighten cover screws evenly and alternately. Do not over tighten.

Complete Disassembly

1. Remove Handle to diverter screw. Note arrow on top of diverter stem as handle is removed.
2. Evenly and alternately loosen cover screws.

CAUTION Top is under spring load. Loosen all screws before removing any of them.

3. Remove cover screws and valve top.
4. Note location of O-ring and spring, and number of washers on diverter stem. Remove O-Ring, spring and washers.
5. Re-assemble in reverse order.

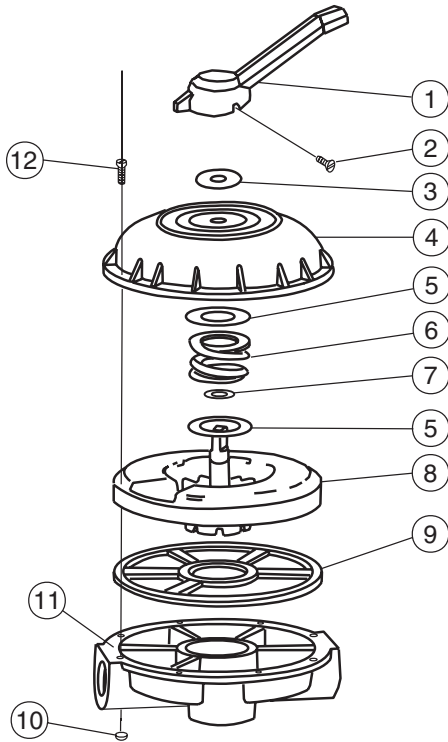
Note: Prior to assembly, be sure bottom gasket and diverter sealing surface are clean and free from nicks to insure positive sealing.

6. When replacing valve handle, be sure arrow on diverter stem and pointer on handle are pointed in the same direction.

CAUTION DO NOT over tighten the screws or use motorized screwdrivers; as this can cause damage to the threads.

Technical Data

Replacement Parts



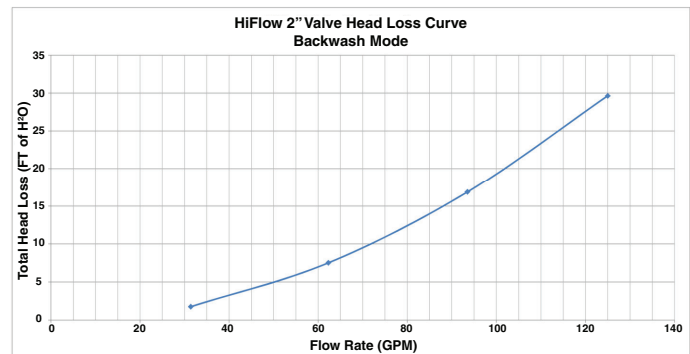
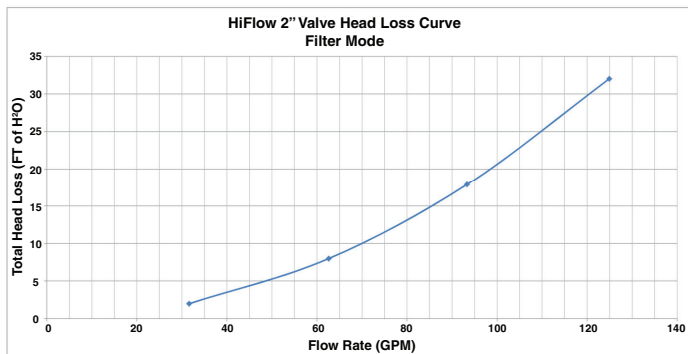
Covers Assemblies P/Ns 261049, 261050 and 261142

Item	P/N	Description	Qty.
1	272520	Handle	1
2	272405	Screw - Handle	1
3	272402	Washer, Plastic	1
4	272412	Valve Top	1
5	271193	Washer - 18 GA	2
6	272400	Spring - Compression	1
7	272406	O-ring - Diverter	1
8	272413Z	Diverter	1
9	272409	Seal -Diverter	1
10	98211400	Nut - 1/4" - 20 Hex	8
11	272415	Plat - 2" Valve Bottom	1
12	272403	Screw - 1/4" - 20	8
*	272422	Valve Top Assembly	1

*This part number includes items 1 thru 9

Note: When replacing gasket P/N 272409, secure it to valve bottom with an instant cyanoacrylate adhesive suitable for bonding rubber to plastic.

Head Loss Curves



1620 HAWKINS AVE., SANFORD, NC 27330 • (919) 566-8000
10951 WEST LOS ANGELES AVE., MOORPARK, CA 93021 • (805) 553-5000
WWW.PENTAIR.COM

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P/N 272133 REV. G 11/28/18



HAYWARD®

001-950-1750-00 Rev0

HydraPure

2½ inch Residential UV System

Owner's Manual



Contents

- Overview.....3
- Installation.....3
- Operation.....8

HYDRAPURE



Pool, Spa & Pond
Water Sanitizer 4BJ1



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



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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: V-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.



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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.



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Overview

Specifications

Plumbing diameter: 2½" unions

Input power (corded model): 120VAC, 50Hz/60Hz

Input power (hardwired model): 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

Phillips head screwdriver

Installation

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.

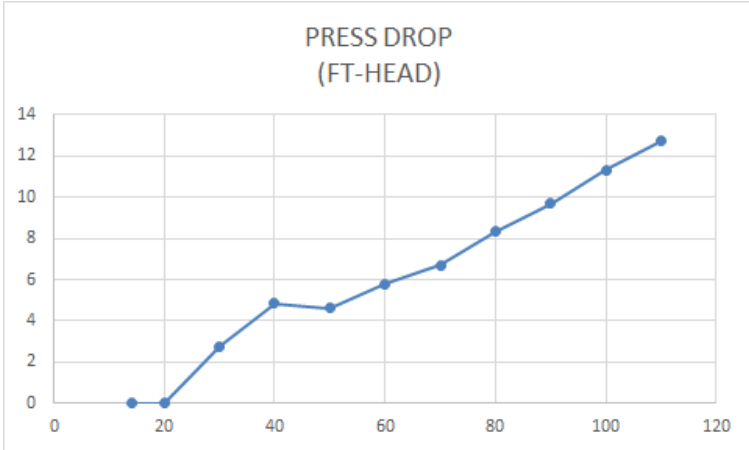
Determine a Suitable Location

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).

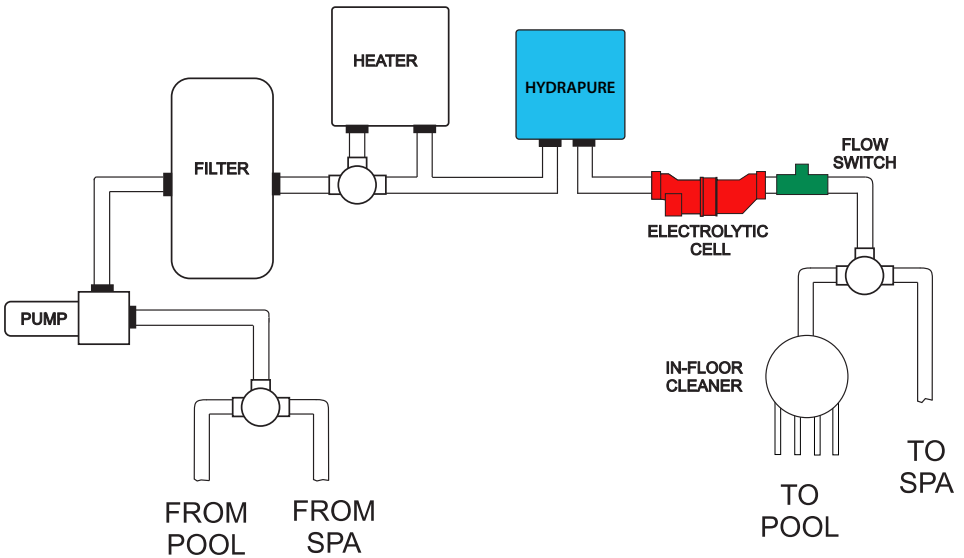


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Head Loss



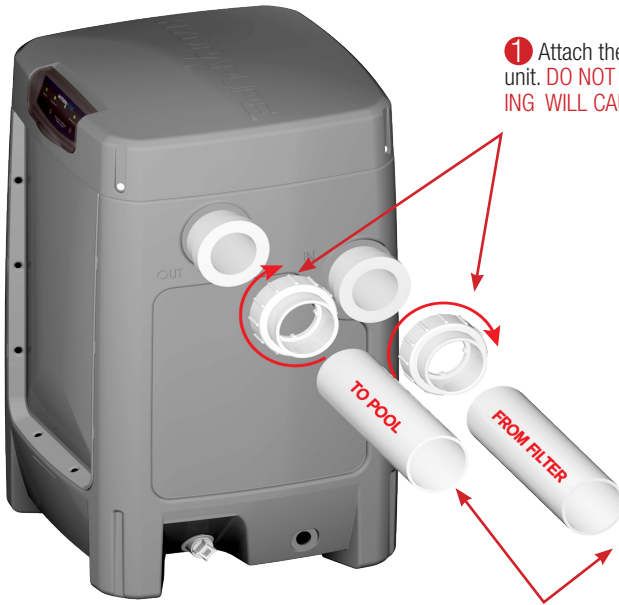
Plumbing Overview





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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.**

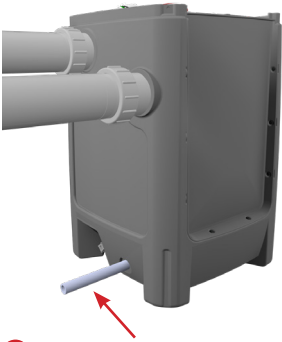
② After cutting pipes to length, debur all cut pipe to ensure shavings don't plug critical points internal to the unit. Use PVC solvent cement to glue pipes into the union sleeve. NOTE the inlet and outlet pipe positions.

2" X 2½" reducer bushings may be used if using 2" pipe.

Connecting Power to the HydraPure Unit

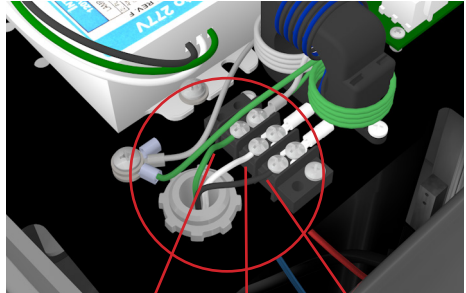
Corded 120V Hydrapure unit: Plug into GFCI outlet.

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 Attach wires to connections according to diagram below.



Ground
L2 if 240V,
N if 120V
L1

Position the Hydrapure Lid

The lid can be positioned in any four directions for better view of the control panel.

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



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



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

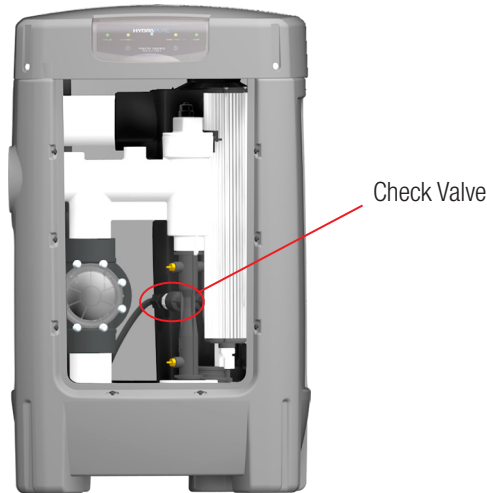


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In some cases it may be necessary to use an alternate Ozone check valve. This prevents the Hydrapure unit from losing pump prime and draining down the equipment set. This would be necessary when the Hydrapure Unit is positioned with the base of the 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	005-402-2505-00
1'-3' (30cm-90cm)	2.0 LB	005-402-2506-00
3'-5' (90cm-150cm)	3.0 LB	005-401-2503-00
5'-8' (150cm-240cm)	4.0 LB	005-401-2504-00

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



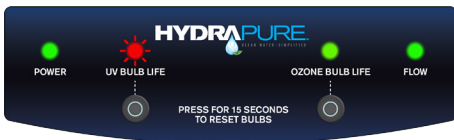
Green UV BULB LIFE & OZONE BULB LIGHT indicates all bulbs and unit functioning properly



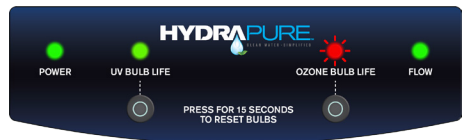
Green or red flashing UV BULB LIFE indicates UV bulb is nearing end of lifespan and will need replacing soon, see page 12



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



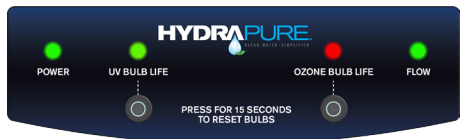
Red flashing UV BULB LIFE indicates UV bulb is no longer sanitizing and should be replaced soon, see page 12



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 malfunction with UV bulb and should be replaced immediately, see page 12



Solid red OZONE BULB LIFE indicates malfunction with ozone bulb and should be replaced immediately, see page 13

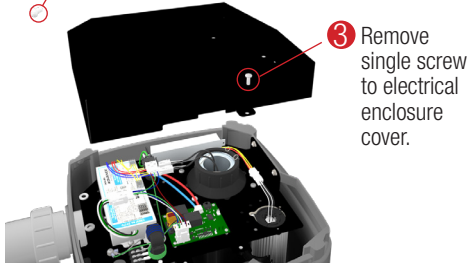
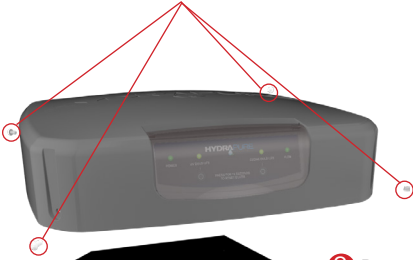
Maintenance

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

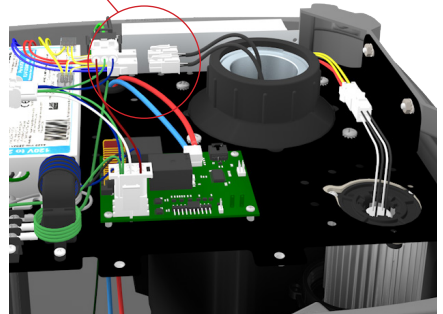
WARNING: Before cleaning, turn off all power to the HydraPure unit and pool pump. Allow at least 15 minutes for the lamp(s) in the unit to cool. Never remove the electrical enclosure cover without first disconnecting the power source from the HydraPure unit. Never remove the HydraPure unit's cover without 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.



4 Disconnect UV lamps from ballast.



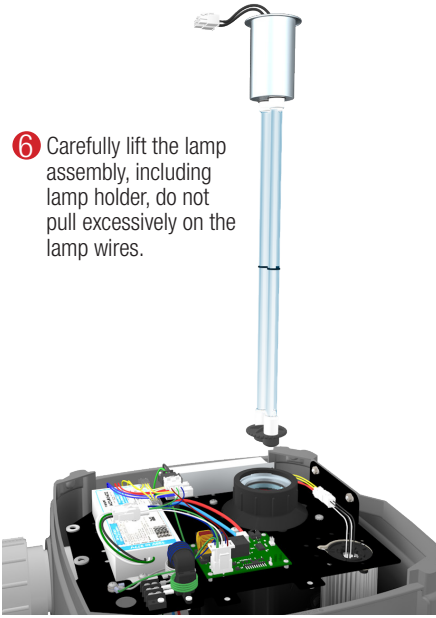
5 Remove spring clip.





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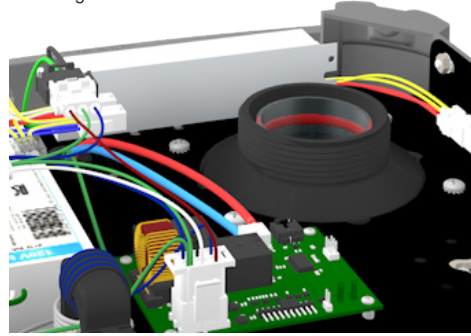
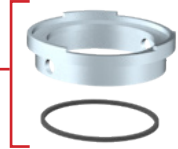
- 6 Carefully lift the lamp assembly, including lamp holder, do not pull excessively on the lamp wires.



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

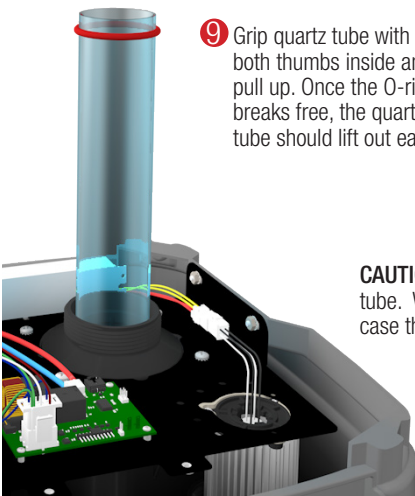


- 8 Remove the aluminum compression washer making sure not to lose the black gasket.



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



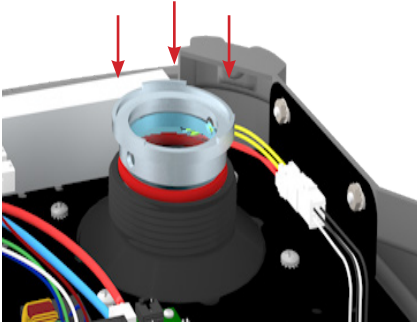
- 10 First, remove O-ring and discard. Use shower/tub cleaner, CLR or equivalent, or a solution of white vinegar and water to clean the outside/inside of the quartz tube. The quartz tube must be completely dried and clear of residue, replace with new O-ring before reassembly.

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

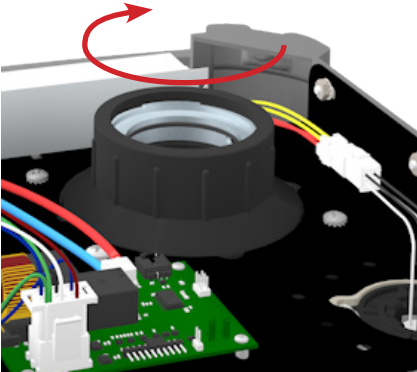


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Press down evenly



- 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** Screw on the quartz sealing nut to hand tight plus $\frac{1}{2}$ 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.

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



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UV Lamps Replacement

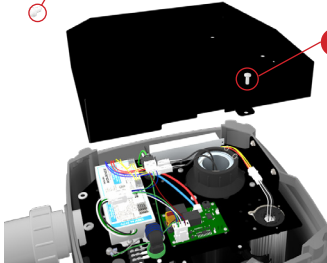
WARNING: Turn off all power to the HydraPure unit and pool pump. Before proceeding allow at least 15 minutes for the lamp(s) in the unit to cool. Never remove the electrical enclosure cover without first disconnecting the power source from the HydraPure unit. Never remove the HydraPure unit's cover without 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.

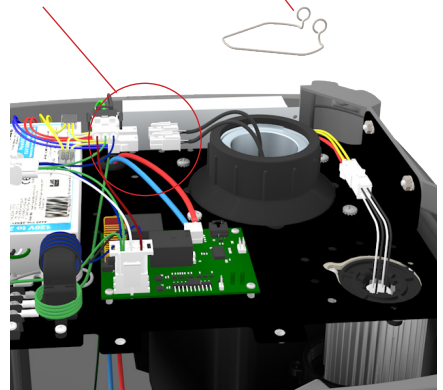
2 Remove screws to lid.



3 Remove single screw to electrical enclosure cover.

4 Disconnect UV lamps from ballast.

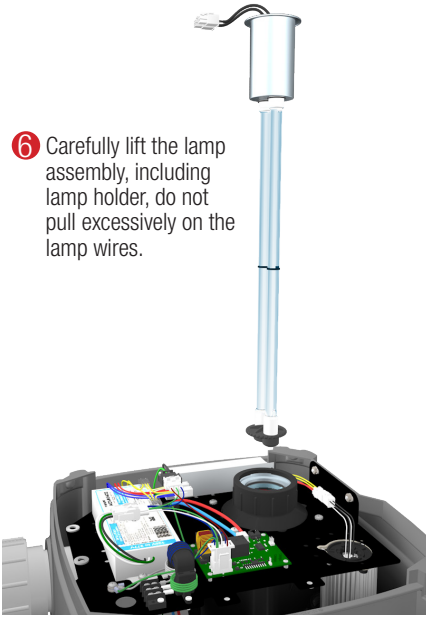
5 Remove spring clip.





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

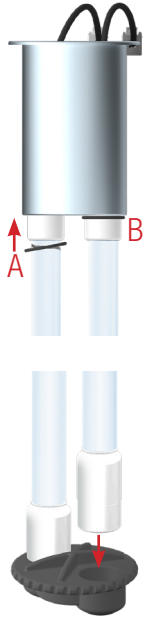


- 7 Insert lamps into lamp holder. Lamps must be aligned and seated securely in the lamp holder. Roll the black O-rings up onto the ceramic end of lamp from position A to B.

- 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.

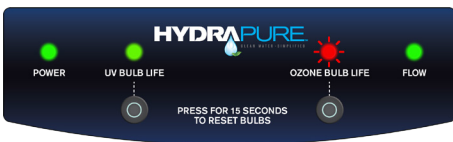
- 9 After power is restored, press and hold UV BULB LIFE Button, for a minimum of 15 seconds, to reset the lamp life indicator.

Discard lamp(s) appropriately. Visit www.lampcycle.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.



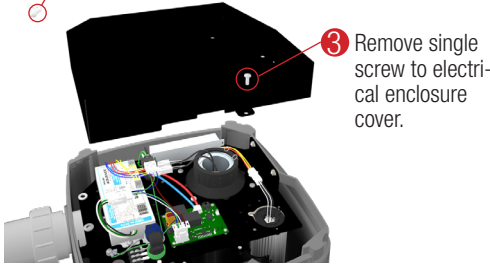
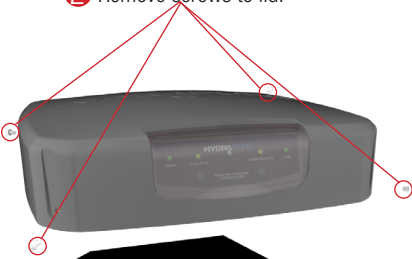
Red flashing OZONE BULB LIFE indicates ozone bulb no longer producing ozone and should be replaced soon.



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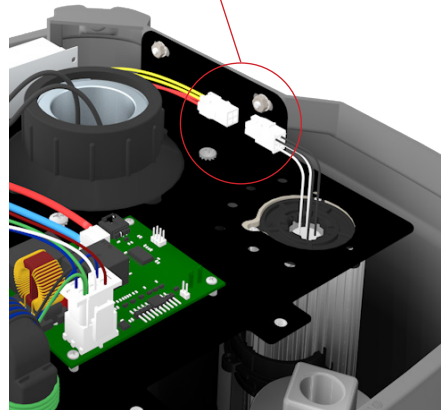
1 Turn Off Power to unit or unplug.

2 Remove screws to lid.



3 Remove single screw to electrical enclosure cover.

4 Disconnect ozone lamp from ballast.

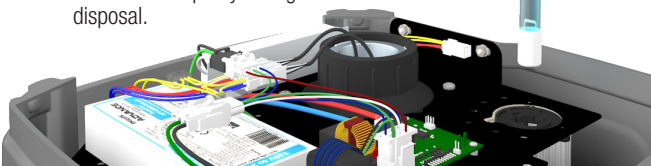


5 Carefully lift the lamp assembly, a slight tug may be necessary to loosen the lamp from the lamp retention fingers.

6 Insert lamps into lamp holder. lamps 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.





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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. 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.



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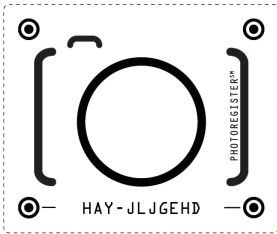
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2. SEND IT IN

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