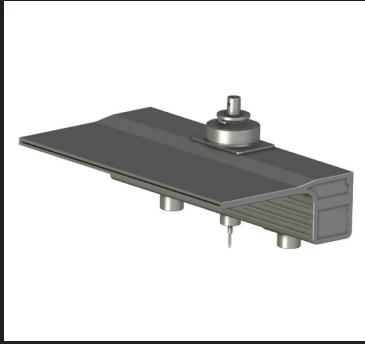




Sheer 500 (LED)

Water Feature With LED Lighting

Owner's Manual



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WFS512B6LED
 WFS518B6LED
 WFS524B6LED
 WFS536B6LED

WFS548B6LED
 WFS560B6LED
 WFS572B6LED
 WFS584B6LED

LFCUS11100
 LFCUS11150

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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 - 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 - ELECTRIC SHOCK HAZARD. MOUNTING A LUMINAIRE THAT REQUIRES BONDING OR GROUNDING IN THIS NICHE CAN CAUSE SEVERE INJURY AND/OR DEATH. DO NOT MOUNT NON-UL LISTED LIGHTS OR ANY LUMINAIRE THAT REQUIRES BONDING OR GROUNDING IN THIS NICHE.



▲ WARNING - Risk of Electric Shock. Hazardous voltage can shock, burn, and cause death or serious property damage. All electrical wiring MUST be in conformance with applicable local codes, regulations, and the National Electrical Code (NEC). 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 - Risk of Electric Shock. Opening light can cause shock, burn and severe injury. Light has no user serviceable parts inside. Do not open light.

▲ NOTICE - This swimming pool product is UL listed for permanently installed pools or spas only. It is not listed for storable pools or spas. Permanently installed pools and spas are those constructed in or partially in the ground and all others capable of holding water in a depth greater than 42 in (1.07 m). Storable pools and spas are those constructed on or above the ground and capable of holding water to a maximum of 42 in (1.07 m).



▲ WARNING - Electrical shock hazard. Damage to wiring can cause severe injury or death. To reduce the risk of electric shock replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers and other equipment.

SAVE THESE INSTRUCTIONS



Introduction

The Hayward Sheer 500 water feature and LED light combination is designed to enhance your backyard pool or spa experience with stunning lighting effects and soothing sounds of falling water. The Sheer 500 must be installed as specified by these instructions. Please follow ALL of the instructions enclosed with this unit. It is recommended to keep the unit in its original packaging until the site is prepared for installation.

What's Included

Refer to the table below for a list of all items included with the Hayward Sheer 500.

Included		
Item #	Part Description	Quantity
1	Waterfall Assembly	1
2	LED Light Installation Tool	1
3	Extractor Tool	1
4	Lid, Collar & Ext. Collar Set (Tan)	1

Sold Separately		
Item #	Part Description	Quantity
1	LED Light Assembly 100'	1
2	LED Light Assembly 150'	2
3	Black Lid & Collar Set	1
4	White Lid & Collar Set	1
5	Dark Grey Lid & Collar Set	1
6	Grey Lid & Collar Set	1
7	Rock Trap	1

Installation

Preparation

Installation of the Waterfall requires the use of:

- Pump
- Cartridge filter (Do NOT use sand or DE filter)
- Flow control valve
- Low voltage transformer and (optional) single gang junction box
- LED Light control system (wall switch or automation control)
- PVC Pipe and 1 in. electrical conduit (refer to table below)

Waterfall Length	Supply Pipe Size
Less than 18 in.	1½ in.
18 in. - 4 ft	2 in.
Greater than 4 ft	3 in.

NOTE: 2 in. plumbing is required for installations using optional rock trap (heavy debris installations).

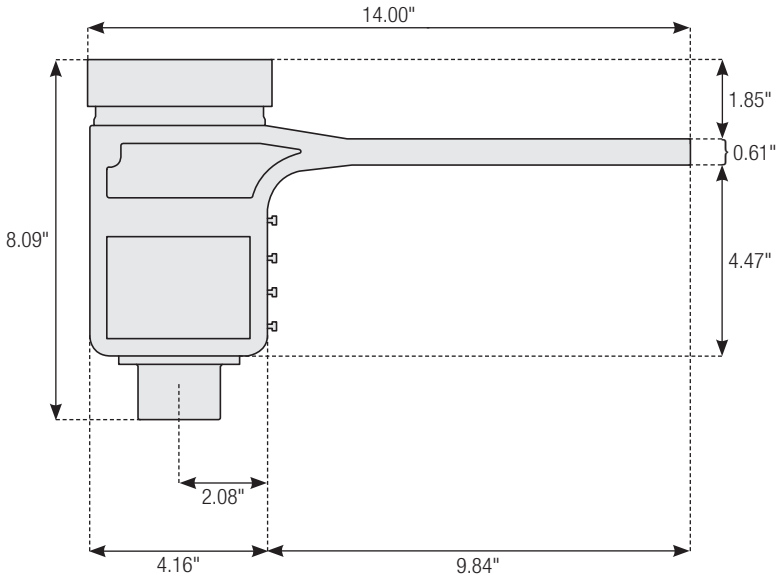


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Determine the install location(s) for the Waterfall. Be sure to follow all NEC and local codes during installation. To achieve the proper water effect, it is recommended to install the Waterfall no higher than 3 feet above water level. The maximum cable run from the LED light to the low voltage transformer should not exceed 150 feet.

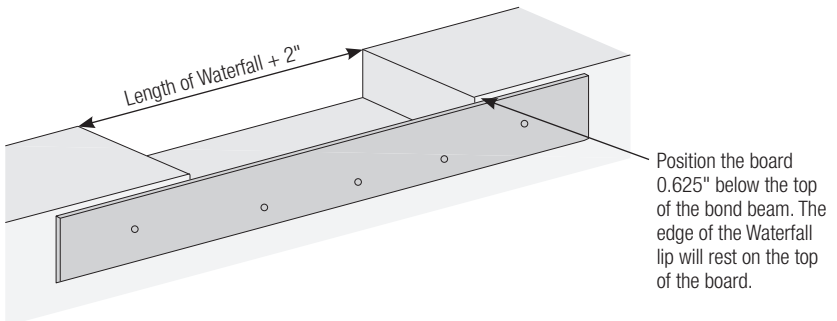
Mechanical

Refer to the diagram below for Waterfall dimensions before roughing-in plumbing and electrical lines. Note that the length of the waterfall (not shown) varies depending on model.



Step 1: Rough-in plumbing and electrical lines. See overview diagram on page 5.

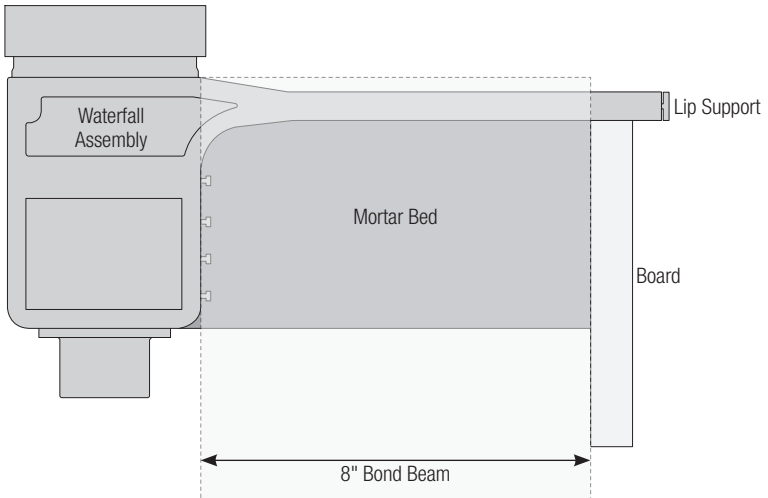
Step 2: Cut a notch in the bond beam and attach a board as shown below. Make sure the board is level as it will be used for setting the level of the waterfall.





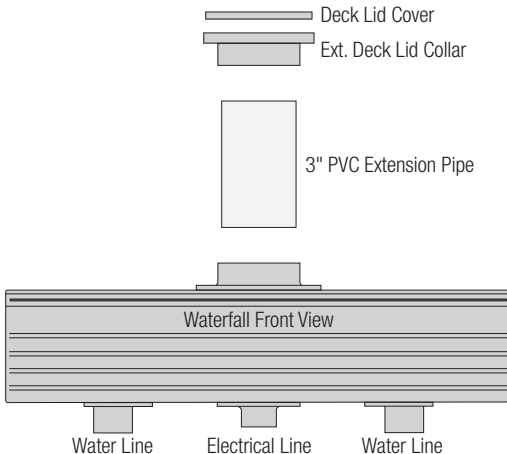
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Step 3: Fill the notch with mortar and set the Waterfall in the mortar as shown below. Make sure that the lip support is in place to prevent debris from getting in the Waterfall. Note that the edge of the Waterfall lip should clear the finished tile line by $\frac{3}{4}$ ". The lip should be level on the board and fully supported by the mortar.



Step 4: Wait for the mortar to fully cure and then remove the board.

Step 5: Glue the ext. deck lid collar onto the waterfall unit with PVC glue. If the Waterfall is installed in a raised wall, a 3" PVC pipe can be used to extend the distance between the top of the Waterfall unit and the deck surface, allowing access to the LED light.





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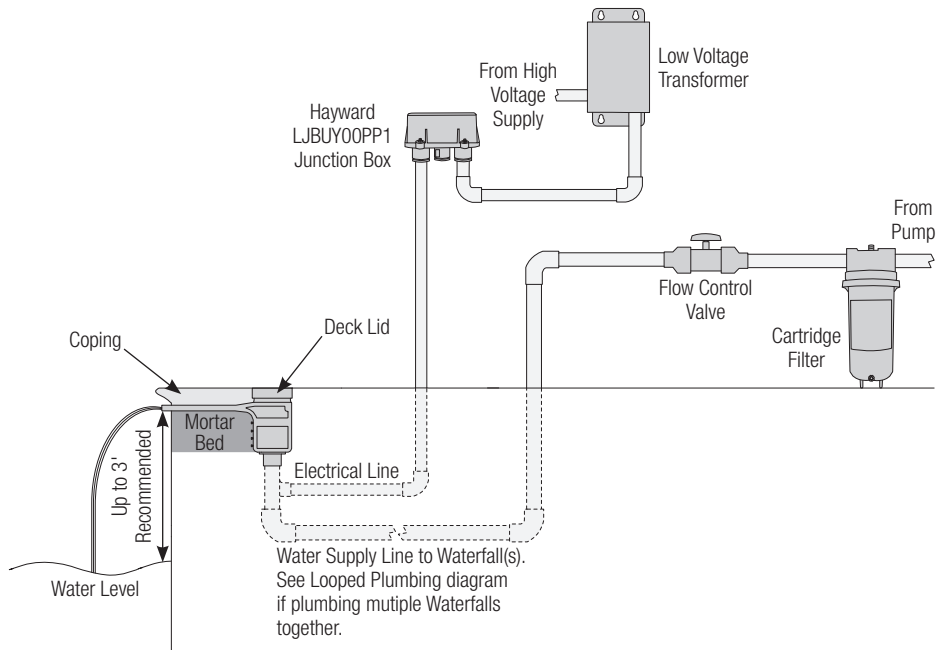
Step 6: Glue the Waterfall to the water lines and electrical line.

Step 7: Install the coping and tile finish. Note that it may be necessary to add filler on top to level out the top of the Waterfall lip with the top of the bond beam.

Step 8: Once installation is complete, the Waterfall lip support can be removed.

Plumbing

Refer to the diagram below for a basic installation overview. If plumbing multiple Waterfalls in-line, use a looped plumbing configuration as shown on the next page.



Refer to page 2 when determining the pipe size for the water supply line. Note that when using the optional rock trap (not pictured above), 2" plumbing is required.

The Waterfall requires a cartridge filter to be plumbed in the water supply line, otherwise debris that gets in the system could damage the Waterfall. Do NOT use a sand or DE filter.

It is recommended to plumb a flow control valve in the water supply line in order to control the flow of water to the Waterfall and achieve the desired water effect. **If using a variable speed pump, then a flow control valve may not be needed.**

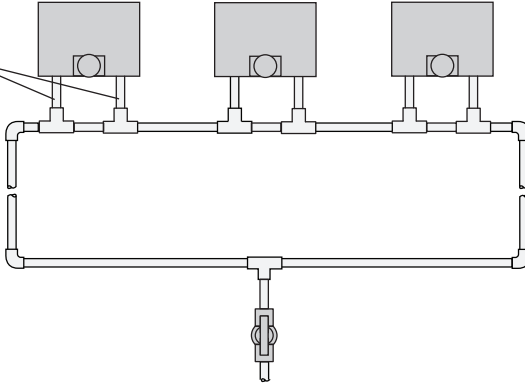


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Looped Plumbing

When plumbing multiple Waterfall systems together, a looped plumbing method as shown below should be used. This will ensure that pressure to all Waterfalls is equalized and they will all have the same water effect.

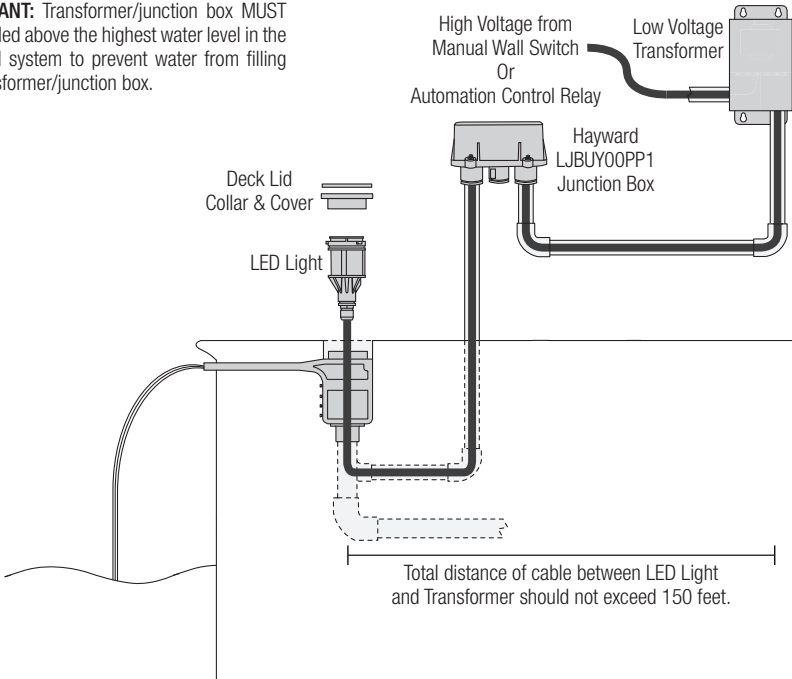
Note: Only 5' to 8' models have multiple water ports.



Electrical Wiring

Refer to the wiring overview diagram below and the following pages for wiring steps.

IMPORTANT: Transformer/junction box MUST be installed above the highest water level in the Waterfall system to prevent water from filling the transformer/junction box.



The Waterfall's LED Light requires the use of a low voltage transformer (not included). See chart below to determine the type of transformer you will need based on the number of LED Lights used. When considering the number of transformers required, note that one LED Light is 25W and the load on a transformer should not exceed 80% of the maximum wattage.

Number of Lights	Type of Transformer
1-2	70W
3-9	300W
10+	Multiple Transformers

NOTE: Any lights wired to the same transformer will run together. If independent operation is desired, then each light or group of lights will require their own separate transformer.

Step 1: Running the Cable

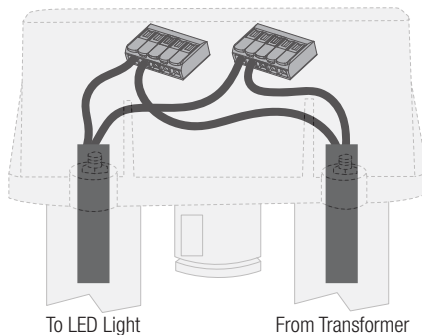
With the Waterfall unit now installed, it is time to run the wiring cable from the LED light to the junction box or low voltage transformer. Note that the maximum cable length between the Waterfall and the low voltage transformer should not exceed 150 feet. Cable runs that are 100 feet or less should use 14 gauge wire and more than 100 feet should use 12 gauge wire. Feed the cable through the electrical line from the Waterfall to the junction box or transformer. At the junction box or transformer, cut the extra cord leaving enough for wiring.

If using an optional junction box - run the cable from the junction box to the low voltage transformer. Cut the extra cord at both the junction box and the transformer leaving enough for wiring.

Verify that all power is off and then run the cable from the power source – either a manual wall switch or an automation control relay – to the low voltage transformer. Cut the extra cord at both ends leaving enough for wiring.

Step 2: Junction Box Wiring (optional)

A junction box is useful if multiple Waterfall LED Lights will be wired together. To make connections easier, it is recommended to use Wago 221 Series lever nuts (pictured below) but standard electrical wire nuts can also be used.

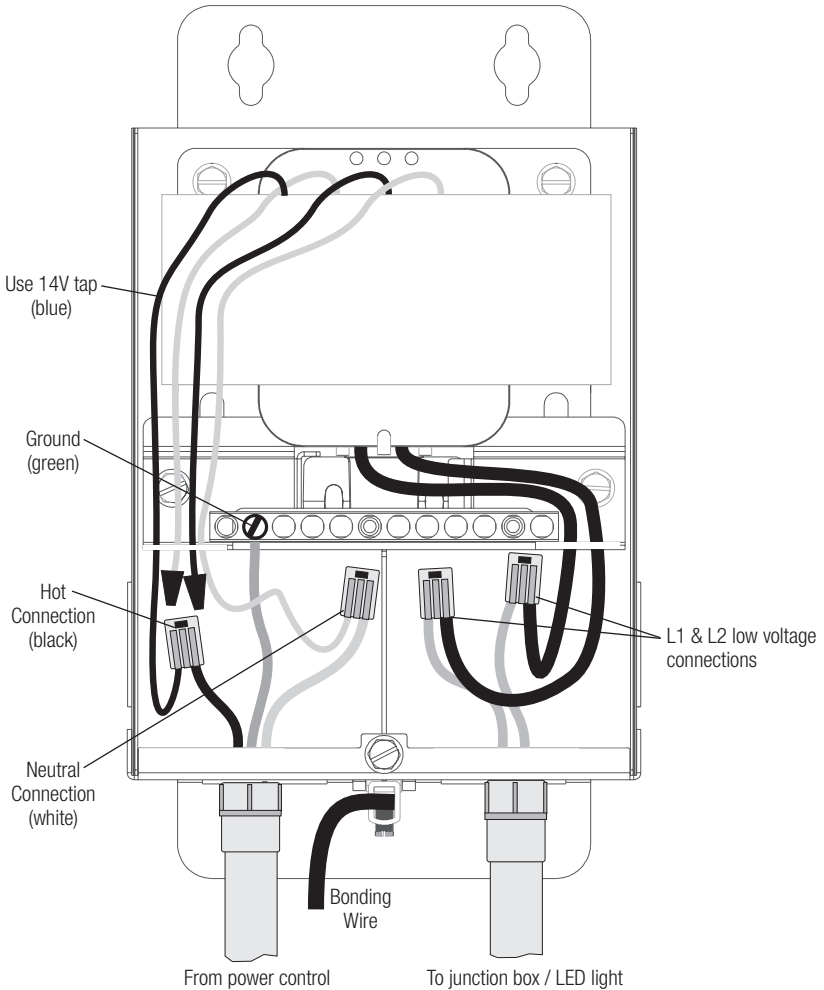




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Step 3: Low Voltage Transformer Wiring

Refer to the wiring diagram below for Hayward 300W transformers. For other transformers, refer to the instructions. Be sure to follow all NEC and local codes when wiring.

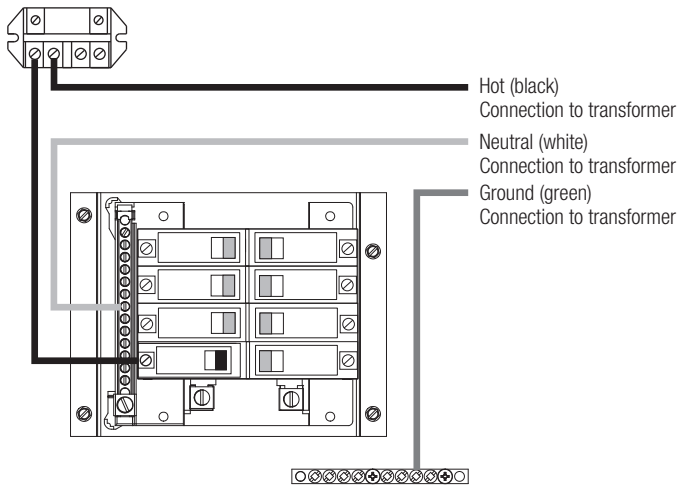




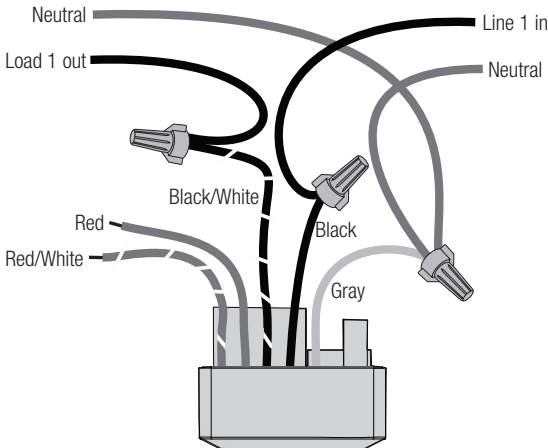
Step 4: Power Control Wiring

When wiring to a wall switch or automation control, follow the directions in the manual provided with that product. When wiring to a Hayward Omni control relay or an Omni Smart Relay, refer to the graphics below. Be sure to follow all NEC and local codes when wiring.

Omni Standard Relay Wiring



Omni Smart Relay Wiring

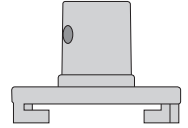




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Step 5: Set LED Light in Waterfall

With wiring complete, the LED light is ready to be set in the niche. Lubricate the O-rings on the light with the supplied lubricant then use the light installation tool (shown on the right) to gently press the light into the Waterfall unit until the ribs are aligned. Then, twist the light 90 degrees clockwise until it locks in place.

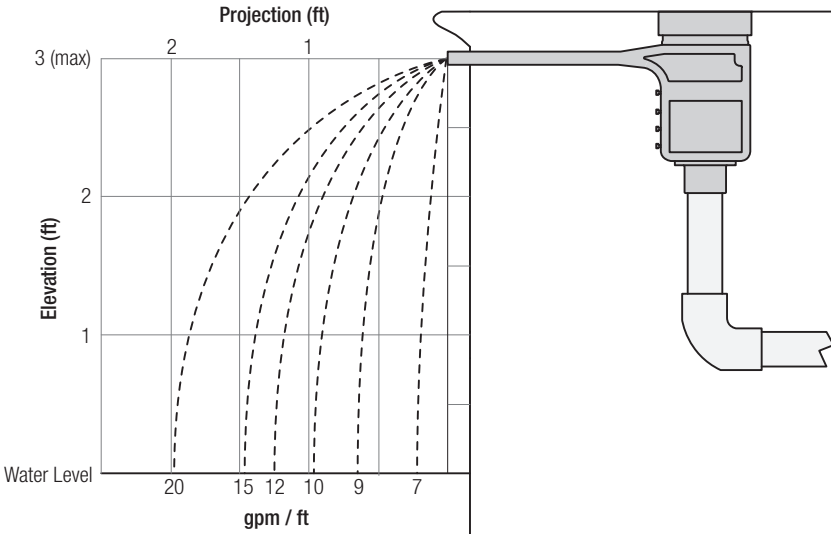


Step 6: Seal with Deck Lid Cover

Install the deck lid cover to the top of the collar with a ribbon of silicone adhesive.

Operation

When operating the Waterfall, it is recommended to keep the water flow at 15 gpm per foot, but the gpm can vary as the ideal water effect is up to the user's personal preference. See graphic below.



Manual Control

Power on the pump controlling the Waterfall system and adjust the flow control valve until the ideal water effect is achieved.

When using a wall switch to control the light, the light must be set to UCL (Universal ColorLogic) mode. This will allow the light to be controlled through power-cycling. The light should already be set to UCL mode from the factory but if the light mode needs to be set, see the procedure on page 12. To activate the light, simply turn on the switch powering the transformer. To deactivate the light, turn off the switch. To advance to the next light program (fixed color or color show), turn the switch off, then back on again within 10 seconds.



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When the light has been off for over 60 seconds, and is first turned on, it will come on in white for 15 seconds for quick clear view of your pool, then go to the last fixed color or color show that was running. Note: Do not power cycle the light during the first 15 seconds of white to preclude risk of loss of synchronization with other connected lights.

When in UCL mode, the light has the capability to display 17 different programs; 10 fixed colors and 7 color-changing shows. These programs are advanced using power-cycling – quickly toggling power to the light. The programs are listed below:

- | | | |
|--------------------------|------------------------|-----------------------|
| 1. Show-Voodoo Lounge | 7. Fixed-Cloud White | 13. Show-Tranquility |
| 2. Fixed-Deep Blue Sea | 8. Fixed-Warm Red | 14. Show-Gemstone |
| 3. Fixed-Royal Blue | 9. Fixed-Flamingo | 15. Show-USA |
| 4. Fixed-Afternoon Skies | 10. Fixed-Vivid Violet | 16. Show-Mardi Gras |
| 5. Fixed-Aqua Green | 11. Fixed-Sangria | 17. Show-Cool Cabaret |
| 6. Fixed-Emerald | 12. Show-Twilight | |

If you have multiple lights running together and they become out of sync, you can resync the lights by following the steps below:

1. Turn lights on.
2. Turn off light for between 11-15 seconds,.
3. Turn lights on.

When the lights come on, they should enter program #1 (Voodoo Lounge), and be synchronized.

Omni Automation Control

When using an Omni controller, the light can be set to Omni Direct mode which allows for direct toggling to the selected show/color as well as 10 additional fixed color options, brightness control, and speed control. Refer to the Configuration section of your Omni controller manual for instructions on configuring a light and configuring a water feature. Note that the light mode can be changed from the configuration menu of the Omni control, but if the mode needs to be changed manually, follow the procedure on the following page.

When configuration is complete, turn on the water feature from the Omni controller. Adjust the flow control valve until the ideal water effect is achieved.

To activate the light from the Omni control, simply navigate to the light menu and press the on/off. The light show can also be changed from this menu, schedules can be set, and the brightness and speed of the light can be adjusted.

When the light has been off for over 60 seconds, and is first turned on, it will come on in white for 15 seconds for quick clear view of your pool, then go to the last fixed color or color show that was running. Note: Do not power cycle the light during the first 15 seconds of white to preclude risk of loss of synchronization with other connected lights.



When in Omni Direct mode, the light has the capability to display 17 different programs; 20 fixed colors and 7 color-changing shows. These light programs are listed on the following page:

- | | | |
|--------------------------|------------------------|-------------------------|
| 1. Show-Voodoo Lounge | 10. Fixed-Vivid Violet | 11. Fixed-Orange |
| 2. Fixed-Deep Blue Sea | 11. Fixed-Sangria | 12. Fixed-Gold |
| 3. Fixed-Royal Blue | 12. Show-Twilight | 13. Fixed-Mint |
| 4. Fixed-Afternoon Skies | 13. Show-Tranquility | 14. Fixed-Teal |
| 5. Fixed-Aqua Green | 14. Show-Gemstone | 15. Fixed-Burnt Orange |
| 6. Fixed-Emerald | 15. Show-USA | 16. Fixed-Pure White |
| 7. Fixed-Cloud White | 16. Show-Mardi Gras | 17. Fixed-Crisp White |
| 8. Fixed-Warm Red | 17. Show-Cool Cabaret | 18. Fixed-Warm White |
| 9. Fixed-Flamingo | 18. Fixed-Yellow | 19. Fixed-Bright Yellow |

Changing Light Modes

Follow the procedure below to manually change the light mode:

1. Turn light on and wait 15 seconds for show/color to launch.
2. Turn off light for between 11-15 seconds, then turn on for 2 seconds.
3. Turn off light for between 11-15 seconds, then turn on for 2 seconds.
4. Turn off light for between 11-15 seconds, then turn on for 2 seconds.
5. The light should now be blinking white and a color corresponding to the current light mode. To change modes, toggle the light off then back on. The light should now be blinking white and a different color. Refer to the chart below for light mode colors.

Blink Sequence	Light Mode
White / Green	CL 4.0
White / Red	UCL
White / Yellow	Pentair SAM
White / Purple	Omni Direct

6. Once the light is blinking in the sequence corresponding to the desired light mode, turn off light for 1 minute. The light should now be in the desired mode.



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Maintenance

Winterization

Follow the steps below for winterizing the Waterfall. Note that in areas where a deep freeze can occur, the waterfall should not be allowed to fill with water, as the ice can damage the Waterfall when it expands.

1. Completely drain water from the water supply line and the Waterfall.
2. Remove the deck lid and unlock the LED light. Lay it loosely in the Waterfall.
3. Replace the deck lid and reseal.

LED Light Replacement

Follow the steps below to replace the LED Light assembly in an existing installation.

1. Remove power to the Waterfall system.
2. Completely drain water from the Waterfall system.
3. Disconnect light wires from the transformer/junction box.
4. Remove deck lid and use the light installation tool to unlock the light from the Waterfall.
5. Remove the light and pull the cable through the Waterfall unit.
6. Install the new light by following the Electrical Wiring steps starting on page 7.
7. Restore power to the light and turn it on to verify operation.

Replacement Parts

[insert replacement parts table]

[insert replacement parts diagram]



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LIMITED WARRANTY (effective 03/01/12) Hayward warrants its OmniLogic, OmniHub, Pro Logic, OnCommand and E-Command pool automation products as well as its Aqua Rite, Aqua Rite Pro, Aqua Plus and SwimPure chlorination products to be free of defects in materials and workmanship, under normal use and service, for a period of three (3) years. Hayward also warrants its Aqua Trol chlorination products to be free of defects in materials and workmanship, under normal use and service for a period of one (1) year. These warranties are applicable from the initial date of purchase on private residential swimming pools in the US and Canada. Installations of product for use on commercial pools in the US and Canada is covered for a period of one (1) year for defects in materials and workmanship. Hayward warrants all accessories and replacement parts for the above-identified pool automation and chlorination products for a period of one (1) year. Accessories also include remotes, actuators, base stations, temperature sensors, flow switches and chemistry probes. Each of these warranties is not transferable and applies only to the original owner.

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

Proof of purchase is required for warranty service. If written proof of purchase is not provided, the manufacturing date code will be the sole determinant of the date of installation of the product. To obtain warranty service or repair, please contact the place of purchase or the nearest Hayward authorized warranty service center. For more information on authorized service centers please contact the Hayward Technical Service Support Center (61 Whitecap Road, North Kingstown RI, 02852) or visit the Hayward web site at www.hayward.com.

WARRANTY EXCLUSIONS:

1. Material supplied or workmanship performed by others in process of installation.
2. Damage resulting from improper installation including installation on pools larger than the product rating.
3. Problems resulting from failure to install, operate or maintain the product(s) in accordance with the recommendations contained in the owners manual(s).
4. Problems resulting from failure to maintain pool water chemistry in accordance with the recommendations in the owners manual(s).
5. Problems resulting from tampering, accident, abuse, negligence, unauthorized repairs or alternations, fire, flood, lightning, freezing, external water, degradation of natural stone used in or immediately adjacent to a pool or spa, war or acts of God.
6. Use of a non-genuine Hayward replacement salt chlorination cell on any Hayward automation or chlorination product will void the warranty for that product.

The express limited warranty above constitutes the entire warranty of Hayward Pool Products with respect to its 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.

For further information or consumer
technical support, visit our website at
www.hayward.com



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