



ColorLogic® Laminar

Owner's Manual



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WFL100

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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



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Before You Begin

The Hayward WFL100 ColorLogic® Laminar has been designed for use with all Hayward Accent Lights and provides lighted water for small fountains and other water effects. The ColorLogic Laminar 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.

Compatibility

The Hayward WFL100 ColorLogic Laminar is compatible with the following Hayward Accent Light models:

Hayward ColorLogic 320
Hayward ColorLogic 160
Hayward ColorLogic 320 Network
Hayward ColorLogic 160 Network
Hayward CrystaLogic 320
Hayward CrystaLogic 160

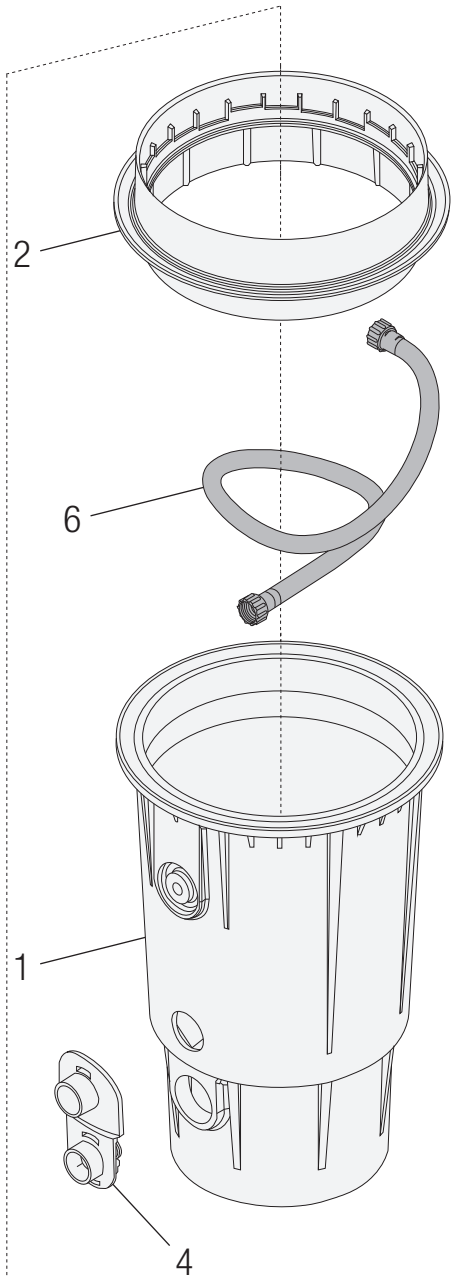
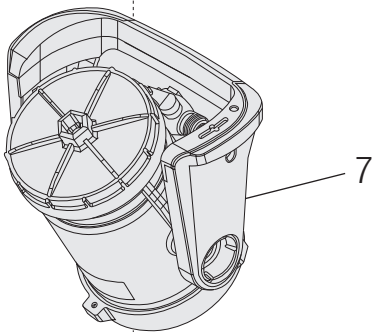
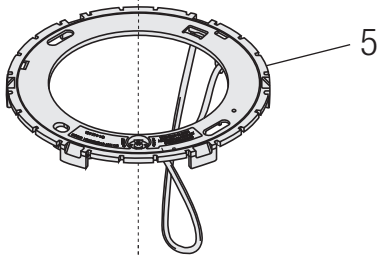
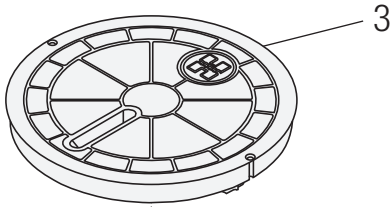
What's Included

Refer to the table below and the image on the following page for a list of all items included with the Hayward WFL100 ColorLogic Laminar.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	G1-046379	Body, Deck Niche	1
2	G1-046388-223	Collar, Deck Niche	1
3	G1-019316	Lid with Label, Deck Niche	1
4	G1-046387	Entry Port, Deck Niche	1
5	G1-019314	Disruptor Assembly, Deck Niche	1
6	G1-019266	Water Inlet Assembly, Laminar	1
7	G1-019315	Laminar Jet	1
8	G1-041410036PK2	Screw Pack, Deck Niche	1



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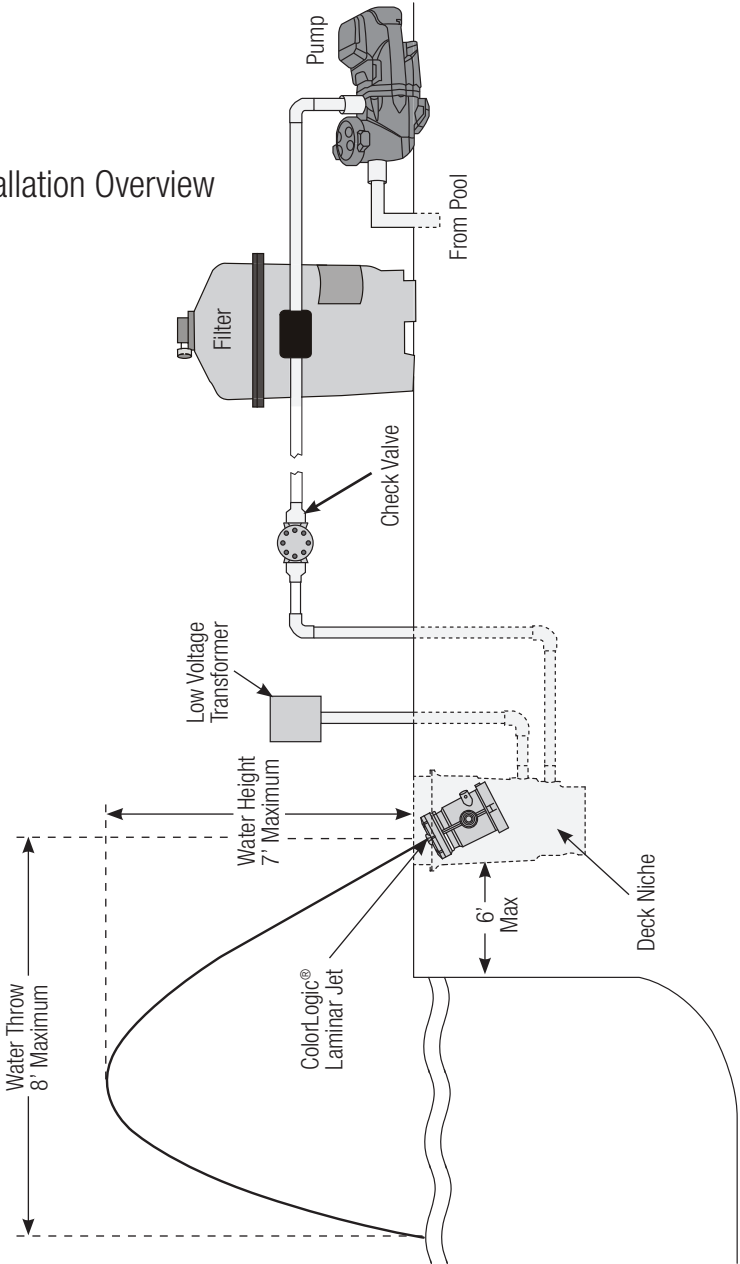




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Installation

Installation Overview



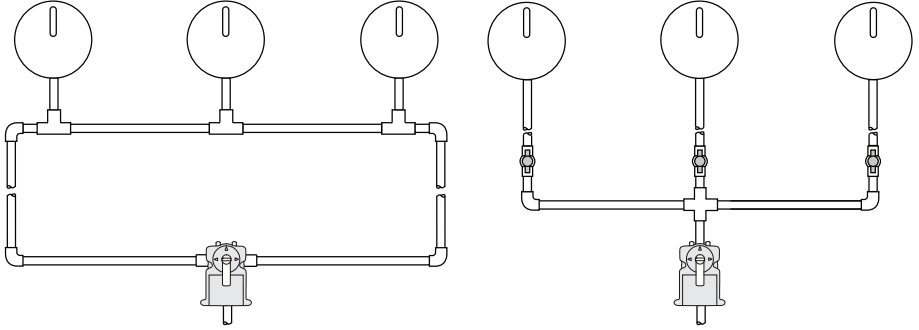


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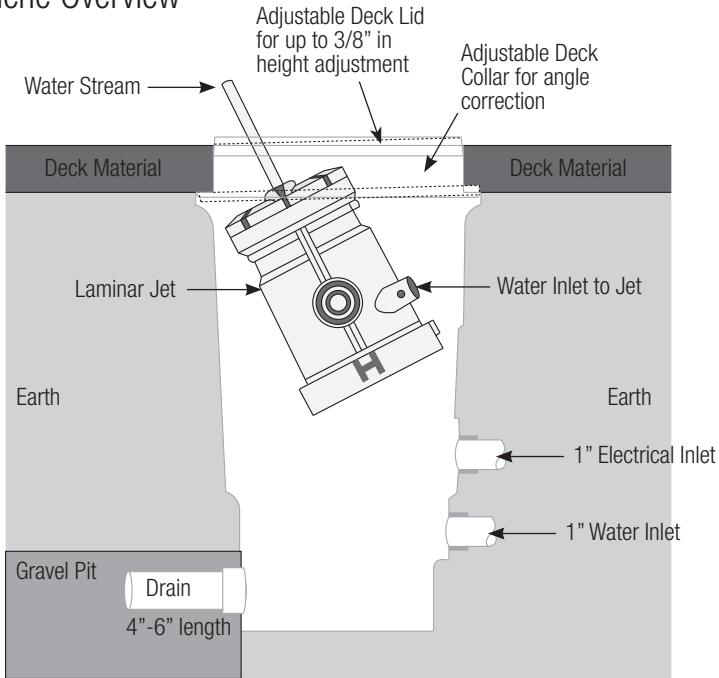
Sub System

NOTE: If finite control is desired, be sure to install an in-line flow control valve to adjust the height and flow of the water. See images below.

Use loop for laminars plumbed at the same distance. Use individual valves for laminars at different distances.



Deck Niche Overview



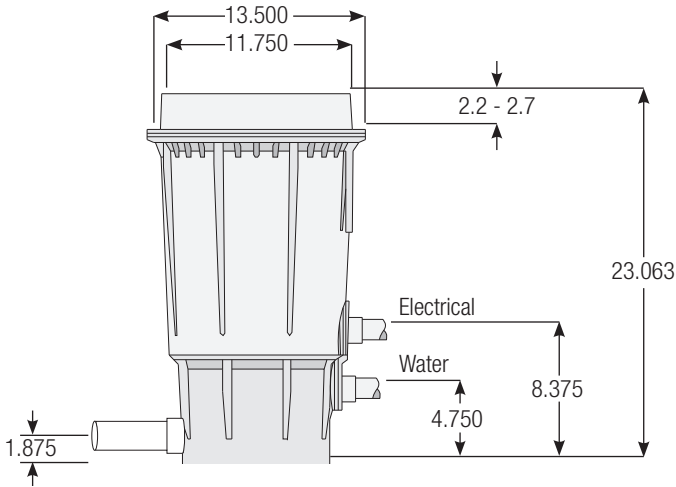
NOTE: A gravel pit must be available to allow for drainage. The lack of a gravel pit may disturb permanently installed niche and cause cracks in pool deck.



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Mechanical Installation - Niche Body

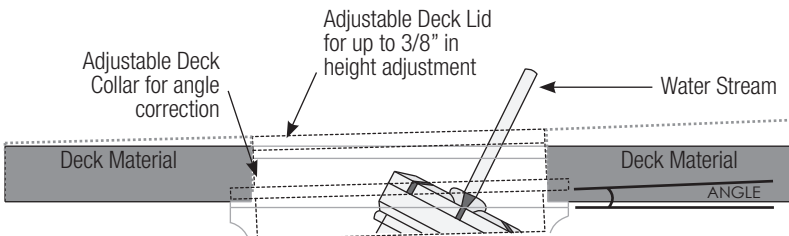
Determine the location(s) for the ColorLogic Laminar(s). Rough-in plumbing pipe and electrical conduit by plumbing the water line to the desired pumping system and the electrical line to the 12VAC transformer. CAUTION: DO NOT wire directly to 120V supply. ENSURE A SUFFICIENT GRAVEL PIT IS AVAILABLE ON DRAIN PORT SIDE OF DECK NICHE.



- Step 1:** Plumb Sch40 PVC according to dimensions above; 4.75" for water supply, 8.375" for electrical supply and 1.875 for drain. See image above.
- Step 2:** Solvent bond deck niche to water and electrical supply pipes using PVC glue. Install 4"-6" length of PVC drain pipe using a 1.5" threaded adapter.
- Step 3:** Back fill pit up to Collar.

Mechanical Installation - Niche Collar

See below for view of final installation. The angle of the Laminar Collar can be adjusted for finish deck corrections.

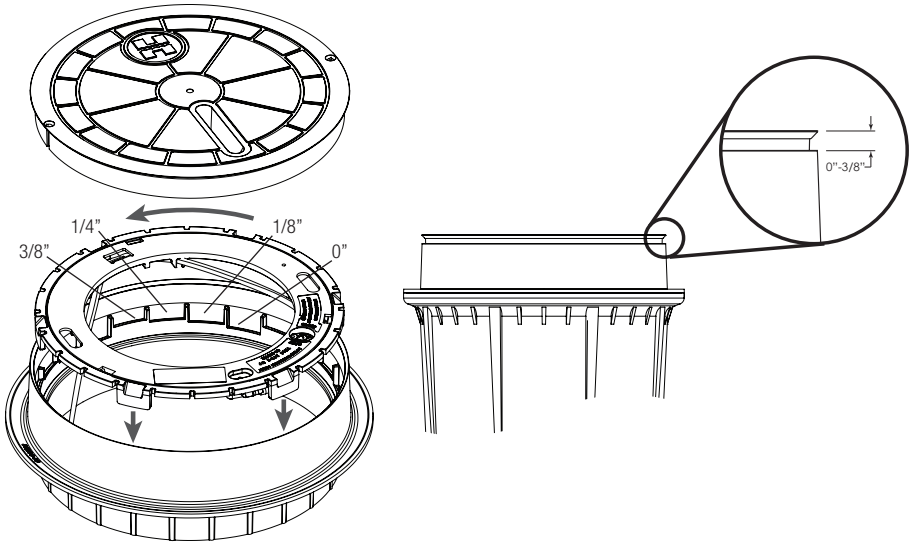


NOTE: In the event the deck niche is not installed level, use the deck collar to achieve leveled finish surface. Example Only: housing installed at a 2° angle. This step is similar to the installation of a skimmer basket collar.



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Step 1: Adjust deck niche collar by lifting on the edge that requires additional pitch until the desired angle is achieved. For additional height, rotate spacer ring to desired height in 1/8" increments up to 3/8". See image below.



Step 2: Apply deck material (Stamped concrete, pavers, etc.).

Installing ColorLogic Accent Light

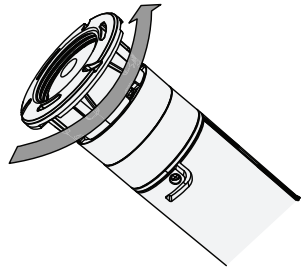
Step 1: Remove Lid and Disruptor Assembly.

Step 2: Remove Laminar Jet from Deck Niche.

Step 3: Choose the desired light from the list of compatible lights shown below.

Hayward ColorLogic 320
Hayward ColorLogic 160
Hayward ColorLogic 320 Network
Hayward ColorLogic 160 Network
Hayward CrystaLogic 320
Hayward CrystaLogic 160

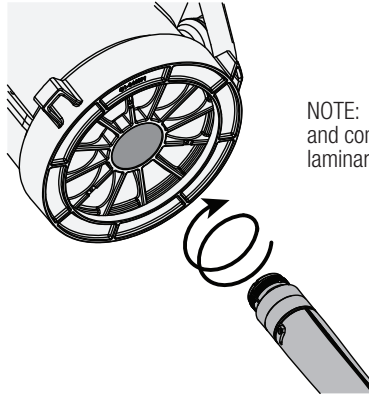
Step 4: Unscrew the retainer clip from the light by twisting in a counter-clockwise direction as shown below.





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Step 5: Thread in the light from the bottom of the Laminar Jet until snug.



NOTE: Pull light cord through inlet and conduit after installation into laminar jet.

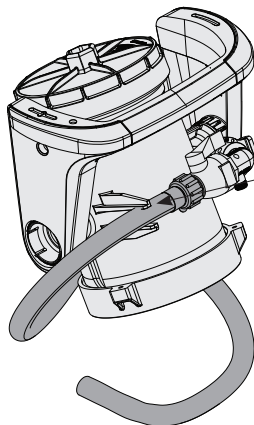
Step 6: Route the light cord through the electrical inlet and conduit. Refer to the light's installation manual for wiring instructions. Leave 3 feet of power cord for service loop inside of the Deck Niche.

Mechanical Installation - Laminar Jet

With the Laminar Jet removed from the Niche, pressure test the water line to no more than 15psi. Ensure there are no leaks. Unscrew the plug from the hose and flush the water line to remove any foreign material from construction that may be in the system. Store the plug for use during winterization.

Once the lines have been pressure tested and flushed, proceed to the installation of the Laminar Jet.

Step 1: Set Laminar Jet carefully on deck. Thread the hose into the flow control valve and route the hose into the strain relief as shown below. Hand tighten hose to valve body only. Do not use any tool to tighten further as damage may occur.

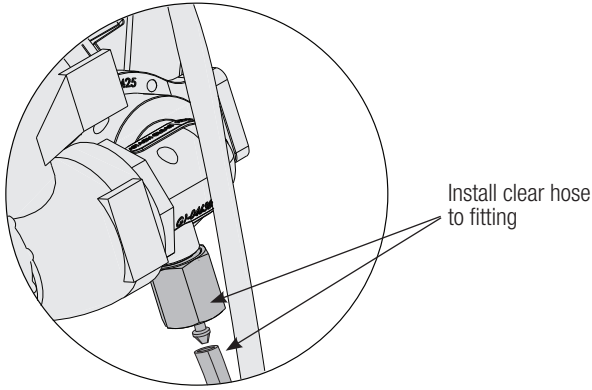


Install hose to valve body. Ensure excessive stress is not applied to the valve adaptor during hose installation.



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Step 2: Install clear hose from the Disruptor Assembly to valve adaptor fitting.



Step 3: Remove the disruptor needle cap and discard.

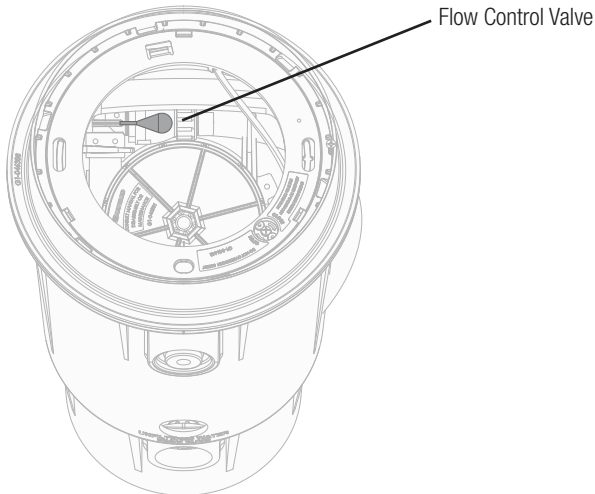
Step 4: Insert the Laminar Jet into the Deck Niche. Reinstall the Disruptor Assembly to the previously roughed-in height. *NOTE: Ensure orientation of disruptor stream intersects with primary stream.*

Performance

Water Performance

Use the Laminar Jet's flow control valve and/or the plumbed in-line flow valve to adjust the water flow and performance of the stream. Refer to the image below. For best performance, 6-7 GPM should be ideal.

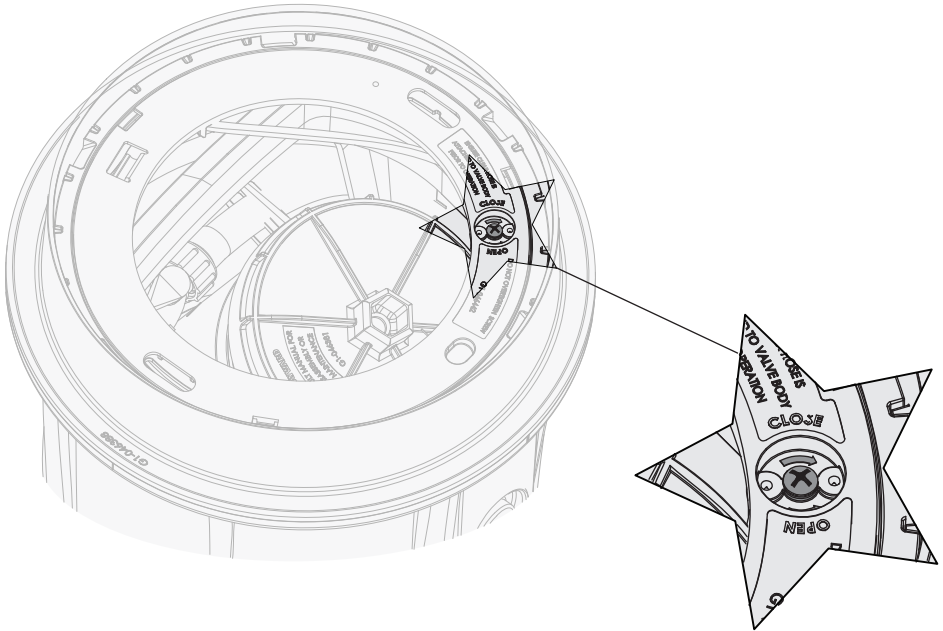
NOTE: When dry, pressurize the Laminar Jet slowly. Abrupt pressure when dry can dislodge screens.





Light Performance

Adjust disruptor stream by opening or closing valve via the screw located beneath the Lid to increase or decrease the flow of the disruptor stream, depending on angle of laminar jet. This will increase or decrease the light intensity in the stream. Be careful not to over-torque the screw. See images below.



Once you've reached the desired illumination, reinstall the Lid by aligning the tabs to the disruptor plate and use screws to lock the Lid in place.

Winterization

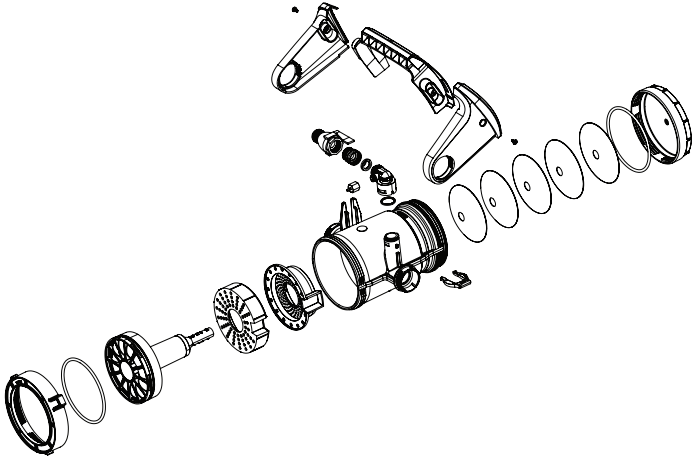
- Step 1:** Close water supply valves during winterization to prevent any water from entering the Laminar Jet.
- Step 2:** Use compressed air or some other source to remove water from lines.
- Step 3:** Unscrew the hose from the flow control valve and install the cap that was removed during installation.
- Step 4:** The Laminar Jet bottom union may be removed to further remove residual water.



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Maintenance

- Step 1:** Use a 1¼" socket bit to remove the Laminar Jet cap to access screens. Remove the union on the bottom to access diffusers.
- Step 2:** Remove any debris that may have been captured during operation. Refer to the diagram below for disassembly and maintenance. NOTE: O-rings should be re-lubricated as needed.



Replacement Parts

ITEM	PART NUMBER	DESCRIPTION	QTY
1	GLXWFLIDGRY	LIGHT GREY LID, DECK NICHE	1
2	GLXWFLIDDKGRY	DARK GREY LID, DECK NICHE	1
3	GLXWFLJET	LAMINAR JET	1
4	GLXWFLHOSE	WATER INLET ASSEMBLY	1
5	GLXWFOPTC	OPTIC BOTTOM SEAL PLATE	1
6	GLXWFLTUBE	TUBING ASSEMBLY	1
7	GLXWFLDISRPT	DISRUPTOR ASSEMBLY	1
8	GLXWFLLDSCRWPK10	DECK NICHE LID SCREW, 10PK	1
9	GLXWFLSCRNPK5	SCREEN, 5PK	1
10	GLXWFLGASKET	LAMINAR GASKET KIT	1
11	GLXWFLVLVADPT	VALVE ADAPTER KIT	1
12	GLXWFLTSPLT	TOP SEAL PLATE	1



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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:

- 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.
- Dual suction fittings shall be placed in such locations and distances to avoid "dual blockage" by a user.
- Dual suction fittings shall not be located on seating areas or on the backrest for such seating areas.
- The maximum system flow rate shall not exceed the flow rating of as listed on Table 1.
- Never use Pool or Spa if any suction outlet component is damaged, broken, cracked, missing, or not securely attached.
- Replace damaged, broken, cracked, missing, or not securely attached suction outlet components immediately.
- 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.
- 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. 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.



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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. Never operate or test the circulation system at more than 50 PSI. Do not purge the system with compressed air. Purging the system with compressed air can cause components to explode, with risk of severe injury or death to anyone nearby. Use only a low pressure (below 5 PSI), high volume blower when air purging the pump, filter, or piping.



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. To reduce the risk of electric shock replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers and other equipment. Do NOT ground to a gas supply line.

WARNING – Risk of Electric Shock: Failure to ground all electrical equipment can cause serious or fatal electrical shock hazard. Electrical ground all electrical equipment before connecting to electrical power supply.

WARNING – Risk of Electric Shock: 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: 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 – HAYWARD® pumps are 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



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Hayward® Pool Products Limited Warranty

To original purchasers of this equipment, Hayward Pool Products, Inc. warrants its Universal ColorLogic® and CrystaLogic™ pool and spa lights, niches, pool light transformers, and couplers 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.hayward.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.

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



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