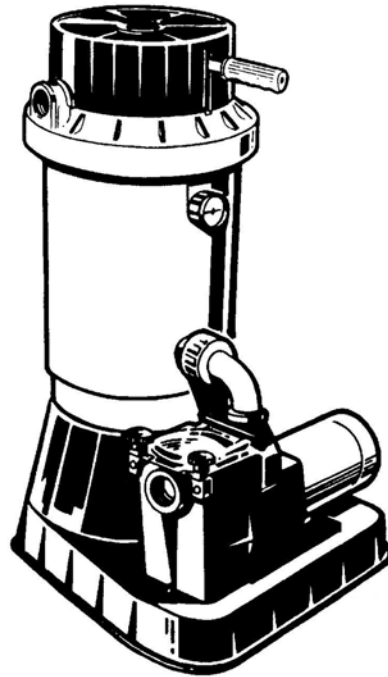


HAYWARD® Pool Products


One source. Every pool.


OWNER'S MANUAL INSTALLATION, OPERATION & PARTS




MODELS: EC65A, EC75A PERFLEX® SERIES Extended Cycle Basic FILTER Units

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.

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

SAVE THIS INSTRUCTION MANUAL

USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

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USE ONLY HAYWARD GENUINE REPLACEMENT PARTS



⚠ - 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.

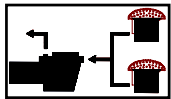
Body Suction Entrapment- A negative pressure applied to a large portion of the body or limbs can result in an entrapment.

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 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 NSPI, IAF 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 40 PSI.

⚠ CAUTION – All electrical wiring MUST be performed by a qualified professional, and MUST conform to local codes and regulations.

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



⚠ 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.



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

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

USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

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

⚠ WARNING – Failure to bond pump 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 pump. Also, contact a licensed electrician for information on local electrical codes for bonding requirements.

The Hayward-Perflex is a high performance swimming pool filter. The EC65AC filter has an output rating of 3,240 gallons (12.2 KL) per hour. The EC75AC filter has an output rating of 4800 gallons (18.0 KL) per hour. Manufactured from durable, corrosion-proof materials, the filter can be combined on a strong, molded mounting base. The filters are designed for continuous operation, for installation up to 2 feet above the pool water line. It may be used on fresh or salt water swimming pools.

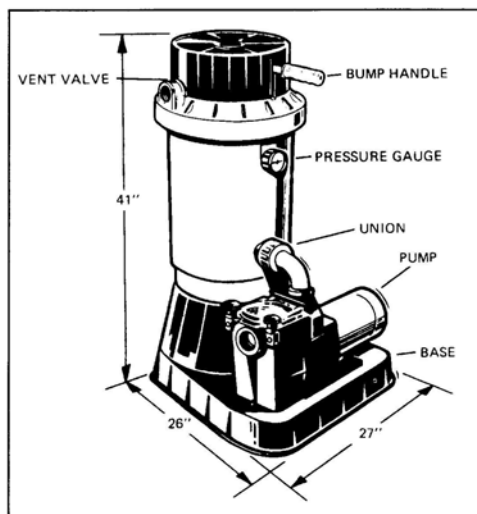
The Perflex filter uses diatomite filter powder (commonly called D.E.). D.E. is the most efficient dirt remover known. It is normally fed into the system through the skimmer when the filter is initially started; then drained from the filter when it can no longer efficiently remove dirt from the water. Through the Perflex's exclusive "BUMP" action, the D.E. is periodically regenerated and the filter cycle extended without changing the powder. When the filter powder is totally used, the "BUMP" action makes it possible to drain the used diatomite without backwashing or dismantling the filter.

PUMP SELECTION

To power your Perflex filter, select a continuous duty pump designed for swimming pool service. The pump mounting bracket (EC65BLP) and hardware purchased separately for the filter will readily accept most units.

It is important to determine whether the pump will be located above or below the normal pool water line. If the pump is going above the water line, a self-priming centrifugal pump must be used. Self-priming pumps can lift water from a lower level and prime automatically. There is another type of pump simply called the centrifugal. Unlike self-priming centrifugals which can lift water from a lower level, a centrifugal must be located below the water line for dependable priming.

Select a pump with an output rating of between 30 and 100 GPM (114-380 LPM).



SYSTEM LOCATION

1. Though the system is designed for outdoor use, it is advisable to protect electrical components from the weather. Select a well-drained area, one that will not flood when it rains.
2. For best pump performance, locate the system above the pool water line, a Super Pump[®], Super II[™] pump, Max-Flo or TriStar[™] pump is required and can be raised two feet above the water line.

3. Set the mounting platform level. Keep the filter bump handle, drain outlet, and pressure gauge accessible for convenient operation. There is an alternate bump handle location on the other side of the filter outlet. Instructions for changing the handle position are covered later.
4. Position the system so that the filter tank can drain by gravity.

PLUMBING & INSTALLATION

1. Use 1-1/2" I.D. flexible plastic pipe, or hose, joined with insert fittings and stainless steel clamps. If rigid return piping is used, installation of a piping union is recommended for ease of future servicing.
2. All plumbing connections on the system are 1-1/2" N.P.T. When making connections, use plastic male-end adapters. Apply three turns of Teflon tape or plastic pipe sealant compatible with ABS to the male threads. Screw the fitting into the thread hand tight; then, using a wrench, tighten one more full turn. Additional tightening is unnecessary-and-could result in damage to components.
3. Tighten pump base mounting bolts, if loose.
4. Securely *hand tighten* the union nut between the filter and pump.
5. Connect the pool suction plumbing between the skimmer, pool outlet, and the pump.
6. Connect the pool return (inlet) plumbing
7. If the pressure gauge is not installed, apply Teflon tape to the gauge threads, and carefully screw the gauge into the threaded hole in the side of the filter body.
8. A drain plug, with gasket, is furnished with each filter and is all that is needed for complete filter draining. If desired however, drain piping may be extended from the filter by using the optional Drain Valve Kit (Model SP0723) and an appropriate length of 1-1/2" pipe. Piping must slope away from the filter so the tank can drain by gravity.
9. All electrical connections should be made in accordance with applicable electrical codes.
10. Check for joint leaks before operating system.
11. Refer to pump instruction booklet for pump information.

USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

BEFORE STARTING THE FILTER

1. Obtain a supply of operating chemicals, D.E., and a pool test kit. Use only the swimming pool grades of D.E., such as:

CELATOM	Eagle-Picher Industries, Inc.
AQUA-CEL	Johns-Manville Products Corporation
DICALITE 4200	Grefco Inc.
WITCO	Witco Corporation

2. Superchlorinate the pool water by adding unstabilized granular or liquid chlorine. Stabilized forms of chlorine are recommended for normal daily use after the initial clean up of the water. Follow chemical manufacturer's recommendations for superchlorination and daily use.

STARTING THE FILTER

Close the filter drain and the vent valve.



CAUTION: All suction and discharge valves must be open when starting the pump. Failure to do so could cause severe personal injury and/or property damage.

Prime and start the pump following the manufacturer's instructions. Air trapped in the system will automatically vent to the pool. When there is a steady flow of water returning to the pool, the filter is ready for precoat. **DO NOT** operate the filter for more than one minute without the precoat charge.

PRECOATING

For the EC65A Scoop 6 lbs. (2.7 kgs.) of diatomite into the system through the skimmer as fast as the plumbing will take it. For the EC75A Scoop 7 lbs. (3.2 kgs.) of diatomite into the system through the skimmer as fast as the plumbing will take it. Note and record the pressure gauge reading after the diatomite has been added. This is the "precoat pressure."

FILTERING

Filtration starts as soon as the filter has been precoated. As the filter removes dirt from the pool water, the accumulated dirt causes a resistance to flow. As a result, the gauge pressure will rise and the flow will decrease. When the pressure rises 7-10 psi (.49-.70 Bar) above the precoat pressure, regenerate the filter.

REGENERATION (Extending the Cycle)

Stop the pump. Move the bump handle down slowly, then up briskly. Repeat 3 times. Restart the pump and filtration will resume at near the original flow and pressure.

After each regeneration, and until the filter is cleaned, there may be a slight increase in the starting pressure. This is the result of dirt accumulating within the filter and is completely normal.

CLEANING

Cleaning is recommended when the gauge pressure rises more than 10 psi (.70 Bar) in less than a 24 hour period or when cloudy water returns to the pool for more than 30 seconds after regeneration. To clean, first stop the pump; then move the bump handle down slowly, then up briskly. Repeat 8 times. Open the vent valve (under bump cover), open the filter drain (Note: if the filter is installed below the pool water line, close the suction and return valves) and

allow water and-dirt-to-empty completely.

After the filter has drained, and with the drain still open, run the pump for a few seconds to flush out any dirt remaining in the bottom of the filter. (Note: If the filter is installed below the pool water line, opening the *suction* valve for a few seconds with the pump off will adequately flush the unit.)

Close the filter drain and the vent valve. Open the suction and return valves (when used). Start the pump and let the filter fill with water and repeat the CLEANING procedure. This completes the cleaning phase. The filter is now ready for recharging. Proceed as in STARTING THE FILTER and PRECOATING.

VACUUMING

Vacuuming can be performed directly into the filter whenever needed. For fastest results, regenerate the filter before and after each vacuuming operation.

TO CHANGE BUMP HANDLE POSITION

1. Remove the bump handle grip. Push in tab at base of handle. Carefully pry the bump cover from the retaining groove and slide the cover off the handle.
2. Using a drift (or 10 penny nail), tap the pivot pin out of the filter head anchor point, freeing the end of the handle. Rotate the bump handle to the alternate position and align the handle and the head anchor holes. Tap the pivot pin in place.
3. Reinstall the bump cover and grip.

PREVENTIVE MAINTENANCE

While Perflex filters are basically resistant to the difficulties often encountered as a result of chemical build-up in swimming pools, it is important to keep in mind that the mineral content in a pool increases every day as a result of the chemicals and the normal water evaporation process. If the concentration of minerals is allowed to get too high, the minerals will form deposits on the Flex-Tubes inside the filter, and will eventually result in shortened filter cycles. To guard against this, a yearly chemical cleaning (soaking) of the Flex-Tube assembly is suggested. Use commercially available 20% muriatic acid added to water in 1 to 1 ratio; or use other commercial filter element cleaner mixed according to the package instructions. Use a plastic container.

CAUTION: WHEN HANDLING CLEANING AGENTS AS THEY CAN BE HARMFUL TO THE EYES, SKIN AND CLOTHING.

After cleaning, thoroughly flush all affected parts with cold water. Always wear gloves and eye protection when handling cleaning agents.

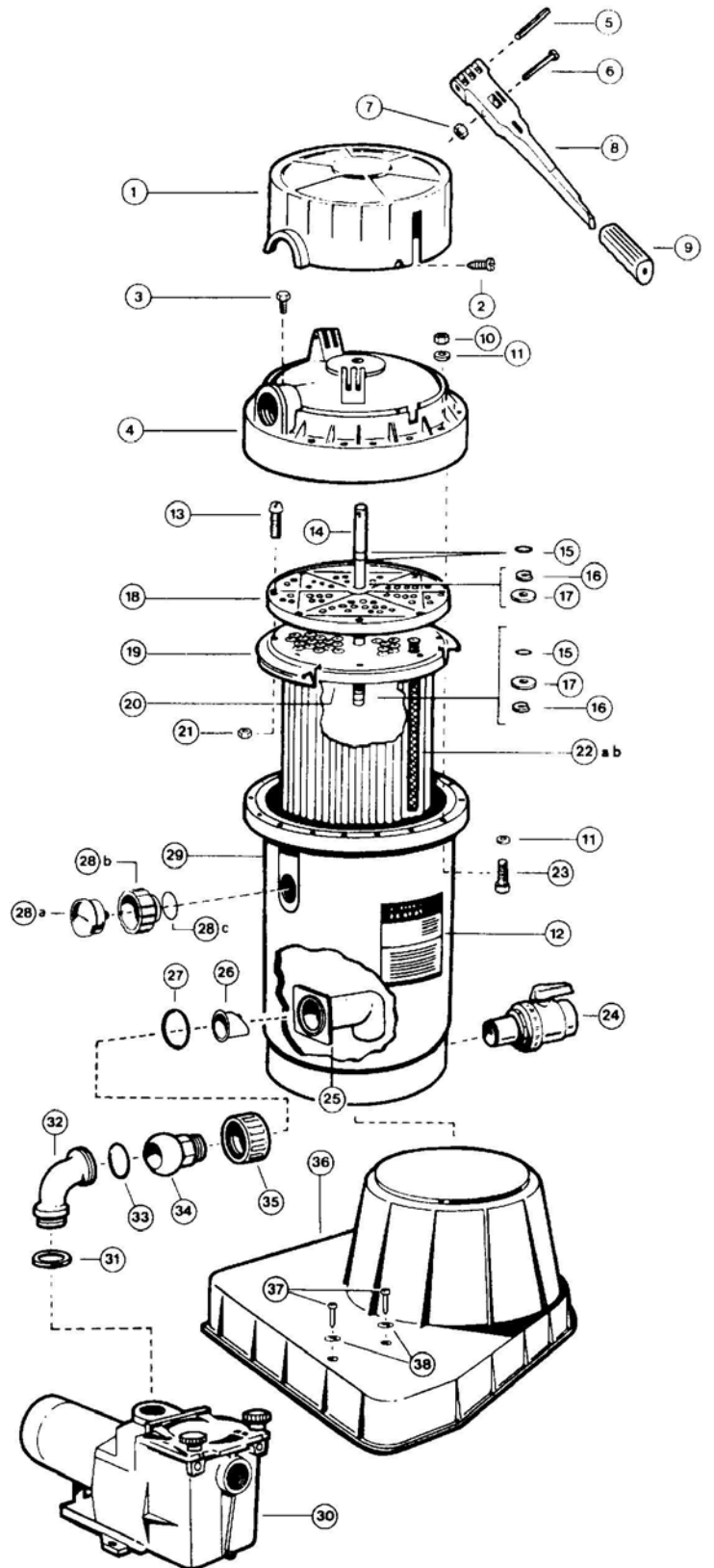
WINTERIZING

In areas where sub-freezing temperatures can be expected, the filter should be drained and removed from its operating location and stored indoors. Prior to removal, cycle the filter as described under CLEANING.



USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
1	ECX11206	Bump Mechanism Cover	1
2	ECX1019	Cover Screw (1981 and Prior)	2
3	ECX1322A	Vent Valve With O-Ring	1
4	ECX11194AT	Filter Head with Vent Valve	1
5	ECX100Z9	Roll Pin	1
6	ECX4236A	Bump Shoulder bolt Kit	1
7		Nut in bolt Kit	
8	ECX1040	Bump Handle Assy w/pins, bolt & nut	1
9	ECX1037B	Bump Handle Grip	1
10	ECX1642A	Tank Bolt Set (Screw and Nut)	15
11	ECX1077	1/4" x 1 1/16" OD Flat washer	30
12	ECX1230	Decal-Operation Instructions	1
13	SPX1500NYA	Tube Sheet Screw	16
14	ECX1110	Bump Shaft	1
15	ECX9611246	O-ring	3
16	ECX1014	Retainer	2
17	ECX1011	Thrust Washer	2
	ECX1014A	Shaft kit (Includes 15,16,17)	1
18	ECX1104	Tube Sheet Top	1
19	ECX1105	Diaphragm Gasket	1
20	ECX1103	Tube Sheet Bottom	1
21	SPX1500Y1	Tube Sheet Nut	16
22a	ECX1031	Flex-Tube Assembly 13 3/8" (EC65)	120
22b	ECX1032	Flex-Tube Assembly 16 1/4" (EC75)	120
23	ECX1642215	1/4"-20 x 1 3/4" Hex head Bolt	16
24	SP0723	Ball-Type Drain Valve with Nipple	1
25	ECX4220A	Elbow Assy w/ Check Valve	1
26	ECX4077B1	Check Valve	1
27	SPX1500W	O-ring	1
28a	ECX27091	Pressure Gauge	1
28b	ECX12866	Gauge Port Adapter	1
28c	ECX1287	Adapter O-ring	1
29	ECX11184AT	Filter Body w/Internal Elbow	1
30		Super, Super II™, or Tri-Star™ pump	1
31	SPX1485C	Gasket	1
32	SPX1485B	Pump Discharge Elbow	1
33	SPX1425Z6	O-Ring	1
34	SPX1485A	Union Ball End	1
35	SPX1480C	Union Nut	1
36	ECX1263	Platform Base	1
37	ECX1275	Pump Mounting Screw	2
38	EC1161	Washer	2
	ECX12515	Flex-Tube Nest (EC65)	
	ECX125175	Flex Tube Nest (EC75) (Includes. 13thru 22)	1



SERVICE & REPAIRS

Consult your local authorized *Hayward-Perflex* dealer or service center. No returns may be made directly to the factory without the expressed written authorization of Hayward Pool Products, Inc.

ALGAE CONTROL

Algae is a form of plant life which can vary in size from a few thousandths of an inch to the size of a small tree. Of the many forms of algae, those most frequently found in swimming pool water are microscopic in size and green in color.

Algae readily grows in sunlight and can, under favorable conditions, quickly overgrow a swimming pool turning it completely green in just a few hours. On the other hand, swimming pool water can be kept unfavorable to algae growth simply by maintaining a chlorine level of at least 0.5 ppm in the water at all times. The chlorine level should be checked at least once a day using a suitable test kit.

If an algae condition develops and the pool water "blooms" green, superchlorination of the pool will be necessary to clear it. Add unstabilized granular chlorine, or liquid chlorine.

Follow chemical manufacturer's recommendation for superchlorination. The algae will quickly become inactive and can then be removed by the filter. Live algae, on the other hand, multiplies so fast that the filter cannot keep up with its growth rate. In an active algae situation, it may be necessary to regenerate the Perflex filter as frequently as every 2 to 3 hours.

When correctly used, commercial algaecides are effective against algae, though algaecides should be used in conjunction with, and not as a substitute for, regular chlorination or superchlorination.

Maintaining a chlorine level of at least 0.5 ppm in the pool water at all times is the most effective way to prevent algae growth in swimming pools.

POOL CHEMISTRY GUIDELINES

SUGGESTED POOL CHEMISTRY LEVELS		ACTION REQUIRED TO CORRECT POOL CHEMISTRY	
		TO RAISE	TO LOWER
pH	7.2 to 7.6	Add Soda Ash	Add Muriatic Acid or Sodium Bisulphate
TOTAL ALKALINITY	100 to 130 ppm	Add Sodium Bicarbonate	Add Muriatic Acid
CHLORINE (UNSTABILIZED)	0.3 to 1.0 ppm	Add Chlorine Chemical	No action - chlorine will naturally dissipate
CHLORINE (STABILIZED)	1.0 to 3.0 ppm	Add Chlorine Chemical	No action - chlorine will naturally dissipate
CHLORINE STABILIZER (Cyanuric Acid)	40 to 70 ppm	Add Stabilizer	Dilution - partially drain & refill pool with water that has not been treated with Cyanuric Acid.

PRODUCT REGISTRATION

(Retain for Your Records)

DATE OF INSTALLATION _____

PURCHASED FROM _____

MODEL _____

SERIAL NUMBER _____

▲ Retain this Warranty Certificate in a safe and convenient location for your records.

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Pomona, CA Clemmons, NC Nashville, TN
www.haywardpool.com

PROBLEM	PROBABLE CAUSE	REMEDY
Running at high pressures.	<ol style="list-style-type: none"> 1. D.E. coated with normal accumulation of pool dirt, algae, etc. 2. Overcharge of D.E. 3. Restriction in return line caused by small eyeball fitting. 4. Partially closed valve on return line. 	<ol style="list-style-type: none"> 1. Bump. 2. Bump-Drain-Recharge. 3. Change to larger size fitting. 4. Open valve.
Drop off of return flow.	<ol style="list-style-type: none"> 1. D.E. coated with normal accumulation of pool dirt, algae, etc. 2. Pump strainer basket clogged. 3. Skimmer basket clogged. 4. Pump impeller vanes clogged. 5. Air leak on suction side of pump. 6. Electric motor running less than maximum R.P.M. (under speed) 	<ol style="list-style-type: none"> 1. Bump. 2. Clean. 3. Clean. 4. Cleaning with a stiff wire thru the pump strainer opening will usually work. Alternate would be to disassemble-and clean. 5. Check cover gasket, hand knobs, hose, clamps, etc. Replace or tighten as necessary. 6. Consult pump and motor trouble shooting guide. <p>NOTE: Most motor problems are due to:</p> <ol style="list-style-type: none"> 1. Undersized or improper wiring. 2. Power cut-backs or a combination of both.
Short cycles.	<ol style="list-style-type: none"> 1. D.E. loaded to capacity with pool dirt, algae, etc. 2. Bumping incorrectly. 3. Bump handle bent. 4. Pump output exceeds design flow rate of filter. 5. Presence of algae. 	<ol style="list-style-type: none"> 1. Bump-Drain-Recharge. 2. Slow down stroke - brisk upstroke. Repeat 6 times. 3. Check and straighten or replace. 4. Check GPM/LPM output. Regulate pump GPM/LPM output to max. filter GPM/LPM rating. 5. Super-chlorinate; Bump-Drain-Recharge as needed.
Short cycles -- even after proper bumping, draining, and recharging	<p>Contaminated (clogged) Flex-Tube braids caused by:</p> <ol style="list-style-type: none"> a. Natural accumulation of chemical deposits (accelerated if chemicals are fed thru skimmer). b. Running D.E. charge too long with excessive amount of live algae present in pool. c. Operating filter without D.E. d. Operating too long without D.E. after starting pump. D.E. must be added as soon as filter is full of water and pump is putting out a steady stream. 	<p>Clean Tube Nest</p> <ol style="list-style-type: none"> a) Detergent Cleaning: Remove tube nest and hose down with forceful stream of clean water. Soak tube nest in strong solution of laundry detergent (such as <i>Cheer</i>) and warm water. Hose down again. b) Chemical Cleaning: This requires use of water and muriatic acid solution (or filter

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	IMPORTANT — Testing a new pool plumbing system without adding D.E. will cause this type of clogging.	cleaner-type preparations) to chemically dissolve contaminates. Consult your pool dealer for chemical cleaning instructions.
D.E. leaking to pool via the return lines	<ol style="list-style-type: none"> 1. Opening or tear in one or more Flex-Tubes. 2. Rip or hole in diaphragm gasket. 3. Worn or loose fitting diaphragm gasket (chemicals fed thru suction lines may shorten life of this part). 4. Loose bolts on tube nest plates. 	<ol style="list-style-type: none"> 1. Replace Flex-Tube. 2. Replace gasket. 3. Replace gasket. 4. Tighten bolts.
Hard bumping.	<ol style="list-style-type: none"> 1. Caking of D.E. under tube sheet. Sometimes caused by accumulation of sun tan oils, hair or floating particles that bind together in a clay-like form. 2. Overloaded with D.E. Sometimes happens when last charge of dirty D.E. was not properly drained. 3. Filter runs too long between bumping. 	<ol style="list-style-type: none"> 1. Bump-Drain-Recharge more often and reduce the use of oils. 2. Bump-Drain-Recharge with proper amount of D.E. 3. Bump more frequently.
D.E. leaking back to pool via skimmer or main drain.	Filter check valve worn or stuck open.	Clean and/or replace.
Very short cycles when vacuuming.	<p>Normal if pool contains:</p> <ol style="list-style-type: none"> 1. Very dirty water. 2. Presence of live, vigorously growing algae. <p>Presence of alum or floccing agents, which will clog filter.</p>	<ol style="list-style-type: none"> 1. Bump-Drain-Recharge more often. 2. Add enough chlorine to control this growth — then vacuum. 3. Vacuum so as to by-pass filter. Avoid using floccing agents.

USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

HAYWARD® LIMITED WARRANTY

This equipment was inspected before shipment from our plant. To original purchasers of this equipment, Hayward Pool Products, Inc., 620 Division Street, Elizabeth, New Jersey, warrants its products free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Parts which fail or become defective during the warranty period, except as a result of freezing, negligence, improper installation, use, or care, shall be repaired or replaced, at our option, without charge, within 90 days of the receipt of defective product, barring unforeseen delays.

To obtain warranty replacements or repair, defective components or parts should be returned, transportation paid, to the place of purchase, or to the nearest authorized Hayward service center. For further Hayward dealer or service center information, contact Hayward customer service department. No returns may be made directly to the factory without the express written authorization of Hayward Pool Products, Inc.

To original purchasers of this equipment, Hayward Pool Products, Inc. warrants its vacuum release systems to be free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Filters which become defective during the warranty period, except as a result of freezing, negligence, improper installation, use or care, shall be repaired or replaced, at our option, without charge.

All other conditions and terms of the standard warranty apply.

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

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.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion 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.

Hayward Pool Products, Inc.
620 Division Street
Elizabeth, NJ 07207
***Supersedes all previous publications.**

USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

Get the Scoop on Achieving Optimum D.E. Filter Performance with Hayward's D.E. Pre-Measure Scoop!



With Hayward's D.E. Pre-Measure Scoop, you can now accurately measure and add the correct amount of diatomaceous earth powder to your pool filter ensuring optimum performance and crystal clear, sparkling water. Hayward's D.E. Pre-Measure Scoop is the only scoop that provides an exact measure of 1 lb. or 1/2 lb. of D.E. Needless guesswork is eliminated. Adding D.E. is accurate, easy, and fast—all with no mess. The D.E. Pre-Measure Scoop doubles as a broadcaster for distributing granular chlorine to your pool. It can also be used for scooping out those hard-to-remove final gallons of water from your spa. Plus, there are hundreds of other uses. Hayward's D.E. Pre-Measure Scoop is available at your pool dealer. Just look for the bright orange display.

Watch it on Video!

Now that you've got the filter that provides the cleanest, clearest pool water...Get the video that keeps maintenance at a minimum and pool enjoyment at a maximum! That's right. Hayward Pool Products has an easy, stress-free way for you to learn about how to operate and maintain your Perflex filter—by video. The new twelve minute Perflex video includes easy-to-follow *how-to's*, on achieving and maintaining proper pool water chemistry, initial start-up and operation of your Perflex fitter, cleaning your Perflex, plus vacuuming, preventative maintenance, and winterizing. Perflex – the video. It keeps maintenance at a minimum and pool equipment at a maximum!

Just order "Operation and Maintenance" Video Part Number EC-OM-Video-90 and include your check or money order for \$9.95* (+ \$2.50 for shipping and handling) and mail to:

Hayward Pool Products Inc.
620 Division Street
Elizabeth, NJ 07207
Attn: Marketing Communications

DETACH HERE: Fill out completely and mail within 10 days of purchase/installation, or REGISTER ONLINE AT WWW.HAYWARDNET.COM



HAYWARD®

Mail to: Hayward Pool Products, 620 Division Street, Elizabeth, NJ 07207, Attn: Warranty Dept.

Please Print Clearly: Warranty Registration Card

Name _____

Purchased Date: _____

Address _____

Purchased from: _____

City _____ State _____ Zip _____

Company name _____

E-mail Address _____

Address _____

Phone No: _____

City _____ State _____ Zip _____

Product Model Number _____

Please send me more information on these other products from Hayward:

Product Serial No. _____

Pump Filter Automatic Pool Cleaner Light

New Installation Replacement

Chlorinator Skimmer Heater Heat Pump

Type of In-Ground Pool:

Salt/Chlorine Generator Controls

Vinyl Fiberglass Gunite

May we contact you for future product promotions and offerings? Yes No

Size of Pool _____

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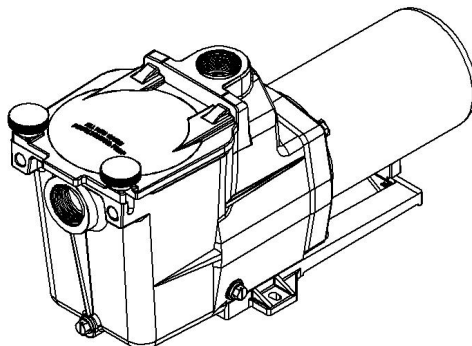
USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

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USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

HAYWARD®

OWNER'S MANUAL INSTALLATION, OPERATION, & PARTS



*50HZ Models are not UL or CSA Listed.



Super Pump™ Series

The Hayward Super Pump™ is specifically engineered for the demanding requirements of today's in-ground swimming pool/spa that is equipped with large capacity filters, heaters, and pool cleaning equipment. The Super is a self-priming pump that incorporates an improved seal and impeller design that will provide many years of efficient, dependable, corrosion-free service. The advanced design provides superior performance while reducing maintenance requirements.

To prevent potential injury and to avoid unnecessary service calls, read this manual carefully and completely.

⚠ WARNING – This product should be installed and serviced only by a qualified professional.

⚠ CAUTION – A licensed electrician **MUST** complete, in full, all electrical installations noted in this manual.

SAVE THIS INSTRUCTION MANUAL

Use of non-Hayward replacement parts voids warranty.

ATTENTION INSTALLER – THIS MANUAL CONTAINS IMPORTANT INFORMATION ABOUT THE INSTALLATION, OPERATION, AND SAFE USE OF THIS PUMP THAT MUST BE FURNISHED TO THE END USER OF THIS PRODUCT. FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS COULD RESULT IN SERIOUS INJURY.



HAYWARD POOL PRODUCTS, INC.

620 DIVISION STREET ELIZABETH, NJ 07207 (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.

IMPORTANT SAFETY INSTRUCTIONS

Before installing or servicing this electrical equipment, turn power supply OFF.

Basic safety precautions should always be followed, including the following: Failure to follow instructions may result in injury.

⚠ This is the safety-alert symbol. When you see this symbol on your pump or in this manual, look for one of the following signal words and are 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.

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

⚠ 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.

⚠ CAUTION – This pump is intended for use on permanently installed swimming pools and may also 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.

Though this product is designed for outdoor use, it is strongly advised to protect the electrical components from the weather. Select a well-drained area, one that will not flood when it rains. It requires free circulation of air for cooling. Do not install in a damp or non-ventilated location. If installed within an outer enclosure or beneath the skirt of a hot tub or spa, adequate ventilation and free circulation of air must be provided to prevent overheating of the motor.

⚠ WARNING – Pool and spa components have a finite life. All components should be inspected frequently and replaced at least every ten years, or if found to be damaged, broken, cracked, missing, or not securely attached.



⚠ WARNING – It is required that licensed electricians do all electrical wiring. **Risk of Electric Shock.** Hazardous voltage can shock, burn, 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 outlet. All electrical wiring MUST be in conformance with applicable local and national codes and regulations. Before working on pump or motor, turn off power supply to the pump.

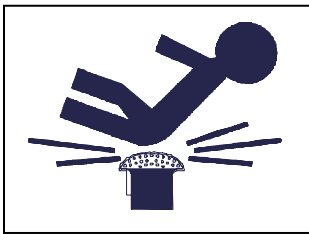
⚠ WARNING – To reduce the risk of electric shock replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers and other equipment.

⚠ WARNING – A licensed electrician must install a Ground Fault Circuit Interrupter (GFCI) in circuit. For size of GFCI required and test procedures for GFCI, see manufacturer's instructions. Pump MUST be permanently connected to GFCI.

⚠ WARNING – Failure to bond pump to pool structure will increase risk for electrocution and could result in injury or death. To reduce the risk of electric shock, the electrician must comply with installation instructions and must bond the pump accordingly. In addition, the licensed electrician must also conform to local electrical codes for bonding requirements.

Notes to the 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) solid copper bonding wire to the pressure wire connector provided on the motor housing and to all metal parts of swimming pool, spa, or hot tub, and to all electrical equipment, 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. **NOTE** - The National Electrical Code (NEC) permits use of a cord with a maximum 3 ft. (1 m) length. If your pump is equipped with a cord complying with the NEC, the preceding four (4) hazards apply.



⚠ WARNING – **Suction Entrapment Hazard.**

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

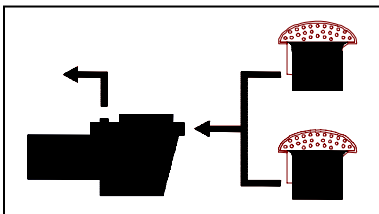
Hair Entrapment- Hair can become entangled in suction outlet cover.

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 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, swimsuits, hair decorations, fingers, toes, or knuckles 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') [0.91 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 values shown in the "Pipe Sizing Chart" found at the bottom of page 5 of this manual.

- 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 to two or more suction outlets per pump installed in accordance with latest IAF (formerly NSPI) 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 – 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 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. All suction and discharge valves **MUST** be **OPEN** when starting the circulation system. Failure to do so could result in severe personal injury and/or property damage.



⚠ WARNING – Separation Hazard. Failure to follow safety and operation instructions could result in violent separation of pump components. Strainer cover must be properly secured to pump housing with strainer cover lock ring. Before servicing pool and spa circulation system, all system and pump controls must be in off position and filter 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 air relief valve body is in locked position in filter upper body. All suction and discharge valves **MUST** be **OPEN** when starting the circulation system. Failure to do so could result in severe personal injury and/or property damage.

⚠ WARNING – This pump is not designed to be pressure tested. However, the remainder of the circulation system shall not be tested or operated at any higher pressure than 50 psi.

⚠ WARNING – Fire and burn hazard. Motors operate at high temperatures and if they are not properly isolated from any flammable structures or foreign debris they can cause fires, which may cause severe personal injury or death. It is also necessary to allow the motor to cool for at least 20 minutes prior to maintenance to minimize the risk for burns.

⚠ WARNING – Failure to install according to all defined instructions may result in severe personal injury or death.

General Information

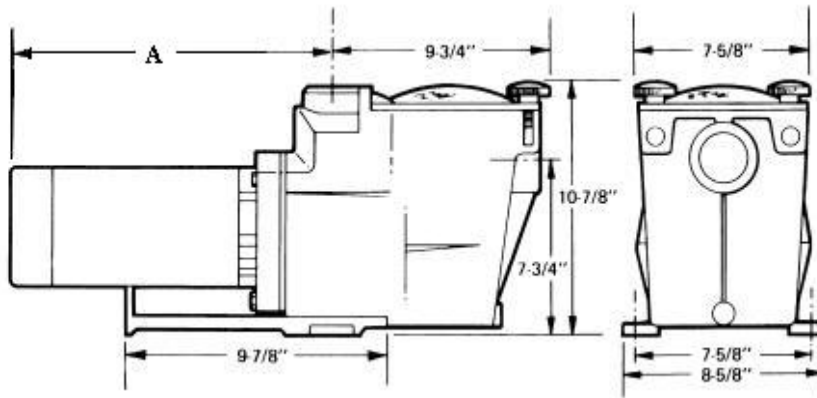
Introduction

This manual contains information for the proper installation and operation of the Hayward Super Pump™ Series. The instructions in this manual **MUST** be followed precisely. **Failure to install according to defined instructions will void warranty.**

Product Benefits

- Super-sized 110 cubic-inch basket has extra leaf-holding capacity and extends time between cleanings. Rigid construction with load extender ribbing assures free flowing operation for heavy debris loads.
- Exclusive swing-aside hand knobs make strainer cover removal simple and easy.
- Lexan see-thru strainer cover lets you see when the basket needs cleaning.
- All components molded of corrosion-proof PermaGlass XL™ for extra durability and long life.
- Uni-bracket mounting base provides stable, stress-free support, plus versatility for any installation requirement. Adapts to 48 and 56 frame motors.
- Heat resistant, industrial size ceramic seal.
- Rugged, one-piece housing, with full-flow ports, assures rapid priming and continuous operation.
- Service-ease design gives simple access to all internal parts. Motor and entire drive group assembly can be removed, without disturbing pipe or mounting connections, by disengaging just four (4) bolts.

Product Specifications

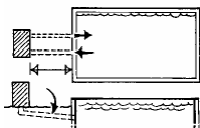


DIMENSION "A" TABLE	
PUMP PART NUMBER	DIMENSION A
SP2600X5	13 3/8"
SP2605X7	14"
SP2607X10	14 3/8"
SP2610X15	15 1/2"
SP2615X20	16 1/2"
SP2621X25	16 1/2"
SP2607X102S	17"
SP2610X152S	17 1/2"
SP2615X202S	18 1/2"

Installation Instructions

⚠ WARNING – This product should be installed and serviced only by a qualified professional.

Pump Location



Locate pump as close to pool as practical and run suction lines as direct as possible to reduce friction loss. Suction lines should have continuous slope upward from lowest point in line. Joints must be tight (but not over-tightened). Suction line diameter must equal or be larger than the discharge line diameter.

Though the pump is designed for outdoor use, it is strongly advised to protect the electrical components from the weather. Select a well-drained area, one that will not flood when it rains. **Do NOT install pump in a damp or non-ventilated location.** Keep motor clean. Pump motors require free circulation of air for cooling.

Pump Mounting

Install pump on a firm, level base or pad to meet all local and national codes. Fasten pump to base or pad with screws or bolts to further reduce vibration and stress on pipe or hose joints. The base **MUST** be solid, level, rigid, and vibration free.

Pump mount must:

- Allow pump inlet height to be as close to water level as possible.
- Allow use of short, direct suction pipe (to reduce friction losses).
- Allow for gate valves in suction and discharge piping.
- Be protected from excess moisture and flooding.
- Allow adequate access for servicing pump and piping.

Pipe Sizing Chart

MAXIMUM RECOMMENDED SYSTEM FLOW RATE BY PIPE SIZE					
Pipe Size	Flow rate	Water Velocity	Pipe Size	Flow rate	Water Velocity
[mm]	GPM [Liter/Min]	ft/sec [meters/sec]	[mm]	GPM [Liter/Min]	ft/sec [meters/sec]
1 ½"	50.76	8	2 ½"	119.40	8
[50]	[192]	[2.44]	[75]	[452]	[2.44]
2"	83.65	8	3"	184.32	8
[63]	[317]	[2.44]	[90]	[698]	[2.44]

IMPORTANT NOTES – No system should allow any higher than 8-ft/sec [2.44 meters/sec] water velocity. It is recommended that a minimum length of piping, equivalent to 10 pipe diameters, be used between the pump suction inlet and any plumbing fittings.

Pump Mounting (cont'd)



⚠ WARNING – Hazardous Pressure. Pumps, filters, and other equipment/ components of a swimming pool filtration system operate under pressure. Incorrectly installed and/or improperly tested filtration equipment and/or components may fail resulting in injury and/or property damage.

Plumbing

Use **Teflon tape** to seal threaded connections on molded plastic components. All plastic fittings must be new or thoroughly cleaned before use. **NOTE - Do NOT use Plumber's Pipe Dope as it may cause cracking of the plastic components.** When applying **Teflon tape** to plastic threads, wrap the entire threaded portion of the male fitting with one to two layers of tape. Wind the tape clockwise as you face the open end of the fitting, beginning at the end of the fitting. The pump suction and outlet ports have molded-in thread stops. **Do NOT attempt to force hose connector fitting past this stop.** It is only necessary to tighten fittings enough to prevent leakage. Tighten fitting by hand and then use a tool to engage fitting an additional 1 ½ turns. Use care when using Teflon tape as friction is reduced considerably; **do NOT over-tighten fitting or you may cause damage.** If leaks occur, remove connector, clean off old Teflon tape, re-wrap with one to two additional layers of Teflon tape, and re-install connector.

Fittings

Fittings restrict flow. For better efficiency, use the fewest possible fittings (but at least two suction outlets). Avoid fittings that could cause an air trap. Pool and spa fittings **MUST** conform to the International Association of Plumbing and Mechanical Officials (IAPMO) standards. Use a non-entrapping suction fitting in pool (multiple drains) or double suction (skimmer and main drain).

Electrical



⚠ WARNING – All wiring must be done by a licensed electrician and must conform to all local and national codes and regulations.

⚠ WARNING – Ground and bond motor before connecting to electrical power supply. Failure to ground and bond pump motor 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 motor before working on electrical connections.

⚠ WARNING – Ground Fault Circuit Interrupter (GFCI) tripping indicates electrical problem. If GFCI trips and won't reset, consult electrician to inspect and repair electrical system.

⚠ WARNING – Fire Hazard. Match supply voltage to motor nameplate voltage.

Insure that the electrical supply available agrees with the motor's voltage, phase, and cycle, and that the wire size is adequate for the H.P. (KW) rating and distance from the power source. **NOTE - All electrical wiring MUST be performed by a licensed electrician, and MUST conform to local codes and NEC regulations.** Use copper conductors only.

ELECTRICAL GUIDE - 60 CYCLE MOTORS - SINGLE PHASE					
MOTOR		VOLTS	CIRCUIT BREAKER RATINGS-AMPS	BRANCH FUSE/RON RATINGS-AMPS	RECOMMENDED WIRE SIZE 0-50'
KW	HP				
.37	1/2	115	15	15	No. 14
.55	3/4	115	15	15	No. 14
		230	10	6.25	No. 14
.75	1	115	20	20	No. 12
		230	10	9	No. 14
1.1	1-1/2	115	30	30	No. 10
		230	15	15	No. 14
1.55	2	115	30	30	No. 10
		230	15	12	No. 14
1.88	2-1/2	230	20	20	No. 12



Electrical (cont'd.)

Voltage

Voltage at motor **MUST NOT** be more than 10% above or below motor name plate rated voltage, or motor may overheat, causing overload tripping and reduced component life. If voltage is less than 90% or more than 110% of rated voltage when motor is running at full load, consult Power Company.

Grounding And Bonding

Install, ground, bond, and wire motor in accordance with local or national electrical code requirements.

Permanently ground motor. Use green ground terminal provided under motor canopy or access place; use size and type wire required by code. Connect motor ground terminal to electrical service ground.

Bond motor to pool structure. Bonding will connect all metal parts within and around the pool with a continuous wire. Bonding reduces the risk of a current passing between bonded metal objects, which could potentially cause electrical shock if grounded or shorted. **Reference NEC codes for all wiring standards including, but not limited to, grounding, bonding and general wiring procedures.**

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

Wiring

⚠ WARNING – A licensed electrician must do all wiring.

Instructions for Electrician:

Install a Ground Fault Circuit Interrupter (GFCI) in circuit; it will sense a short-circuit to ground and disconnect power before it becomes dangerous to pool users. For size of GFCI required and test procedures for GFCI, see manufacturer's instructions. Pump **MUST** be permanently connected to GFCI. In case of a power outage, check GFCI for tripping, which will prevent normal pump operation. Reset if necessary.

Start-Up & Operation

Fill strainer housing with water to suction pipe level. **NEVER OPERATE THE PUMP WITHOUT WATER.** Water acts as a coolant and lubricant for the mechanical shaft seal.

⚠ ATTENTION – NEVER run pump dry. Running pump dry may damage seals, causing leakage, flooding, and voids warranty. Fill strainer housing with water before starting motor.

⚠ ATTENTION – Do NOT add chemicals to pool/spa system directly in front of pump suction. Adding undiluted chemicals may damage pump and voids warranty.

⚠ ATTENTION – Before removing strainer cover:

1. **STOP PUMP** before proceeding.
2. **CLOSE VALVES** in suction and outlet pipes.
3. **RELEASE ALL PRESSURE** from pump and piping system using filter manual air relief valve. **See filter owner's manual for more detail.**

Priming Pump



⚠ CAUTION – All suction and discharge valves **MUST** be **OPEN**, as well as filter air relief valve (if available) on filter, when starting the circulating pump system. Failure to do so could result in severe personal injury.

- Release all pressure from filter, pump, and piping system. **See filter owner's manual.**
- If water source is higher than the pump, pump will prime itself when suction and outlet valves are opened. If water source is lower than the pump, unscrew and remove strainer cover; fill strainer housing with water.
- Clean and lubricate strainer cover O-ring with "Jack's 327" each time it is removed. Inspect O-ring and re-install on strainer cover.
- Replace strainer cover on strainer housing; turn clockwise to tighten cover.

NOTE - Tighten strainer cover knobs by hand only (no wrenches).

Turn on power and wait for pump to prime, which may take up to five (5) minutes. Priming time will depend on vertical length of suction lift and horizontal length of suction pipe. If pump does NOT prime within five minutes, stop motor and determine cause. Be sure all suction and discharge valves are open when pump is running. See Troubleshooting Guide.

⚠ ATTENTION – Wait five (5) seconds before re-starting pump. Failure to do so may cause reverse rotation of motor and consequent serious pump damage.

Close filter manual air relief valve after pump is primed.

Maintenance

- Clean strainer basket regularly. Do NOT strike basket to clean. Inspect strainer cover gasket regularly and replace as necessary.
- Hayward pumps have self-lubricating motor bearings and shaft seals. No lubrication is necessary.
- Keep motor clean. Insure air vents are free from obstruction to avoid damage. Do NOT use water to hose off motor.
- Occasionally, shaft seals must be replaced, due to wear or damage. Replace with genuine Hayward seal assembly kit. See "Shaft Seal Change Instructions" in this manual.

Storage/Winterization



⚠ WARNING – Separation Hazard. 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.

⚠ ATTENTION – Allowing the pump to freeze will void the warranty.

⚠ ATTENTION – Use **ONLY** propylene glycol as antifreeze in your pool/spa system. Propylene glycol is non-toxic and will not damage plastic system components; other anti-freezes are highly toxic and may damage plastic components in the system.

Drain all water from pump and piping when expecting freezing temperatures or when storing pump for a long time (see instructions below).

Keep motor dry and covered during storage. To avoid condensation/corrosion problems, do NOT cover or wrap pump with plastic film or bags.

Storing Pump For Winterization



⚠ WARNING – To avoid dangerous or fatal electrical shock hazard, turn OFF power to motor before draining pump. Failure to disconnect power may result in serious personal injury or death.

1. Drain water level below all inlets to the pool.
2. Remove drain plugs from bottom of strainer body, and remove strainer cover from strainer housing.
3. Disconnect pump from mounting pad, wiring system (after power has been turned OFF), and piping system.
4. Once the pump is removed of water, re-install the strainer cover and drain plugs. Store pump in a dry area.

Shaft Seal Change Instructions

IMPORTANT SAFETY INSTRUCTIONS PLEASE READ AND FOLLOW ALL INSTRUCTIONS

When servicing electrical equipment, basic safety precautions should always be observed including the following. Failure to follow instructions may result in injury.

- A. **⚠ WARNING** – To reduce risk of injury, do not permit children to use this product.
- B. Disconnect all electrical power service to pump before beginning shaft seal replacement.
- C. Only qualified personnel should attempt rotary seal replacement. Contact your local authorized Hayward Dealer or service center if you have any questions.
- D. The National Electrical Code requires either a three (3) foot maximum twist-lock cord set with a GFCI protected receptacle or hard wire (conduit) connection for swimming pool pump installation. Do not use extension cords.

Exercise extreme care in handling both the rotating and the stationary sections of the two-part replacement seal. Foreign matter or improper handling will easily scratch the graphite and ceramic sealing surfaces.

Removing the Motor Assembly (See Parts Diagram on page 11 of this manual for pump component locations.)

1. Remove the four (4) 3/8" x 2" **housing cap screws** which hold the motor assembly to the **pump/strainer housing**.
2. Slide the motor assembly out of the **pump/strainer housing**, exposing the **diffuser**. Pull the **diffuser** off of the **seal plate**, exposing the **impeller**. (The **diffuser** may remain in the **pump/strainer housing**. To remove, pull it straight out of the **pump/strainer housing**.)

Removing the Impeller (See Parts Diagram on page 11 of this manual for pump component locations.)

3. Remove the motor end cover by removing the two (2) screws or pry off the cap covering the motor shaft. Hex shaped caps must be twisted off.
4. To prevent motor shaft from turning, carefully slide a 7/16" open-end wrench between the capacitor and the centrifugal switch (the wrench fits over the two (2) flats on the motor shaft). Some motors may require a larger wrench be placed in slot at end of shaft to keep motor shaft from turning.
5. Rotate the **impeller** counterclockwise and remove. The spring portion of the **seal assembly** is now exposed. Note carefully the position of the spring seal, and remove it. **NOTE** - Replace motor cover to protect delicate motor parts.

Removing the Ceramic Seat (See Parts Diagram on page 11 of this manual for pump component locations.)

6. Remove the **seal plate**. Note the tabs on the sides of the plate and the mating grooves on the front of the **motor mounting plate**.
7. Press the ceramic seat with rubber cup out of the **seal plate**. If tight, use a small screwdriver to tap seal out. **STOP** - Clean all recesses & parts to be reassembled. Inspect gaskets & replace if necessary.

Seal Installation (See Parts Diagram on page 11 of this manual for pump component locations.)

8. Clean and lightly lubricate the impeller hub and seal recess in the seal plate with a dilute solution of non-granulated liquid-type soap.
9. Gently wipe the black, polished surface of the spring seal assembly with a clean, soft, cotton cloth. Press the spring seal assembly onto the **impeller** hub – black polished surface facing away from the impeller.
10. Gently wipe the polished surface of the ceramic seal with a clean, soft, cotton cloth. Lubricate the rubber cup on the ceramic seat and press it firmly and evenly into the recess of the **seal plate** – polished side facing out.

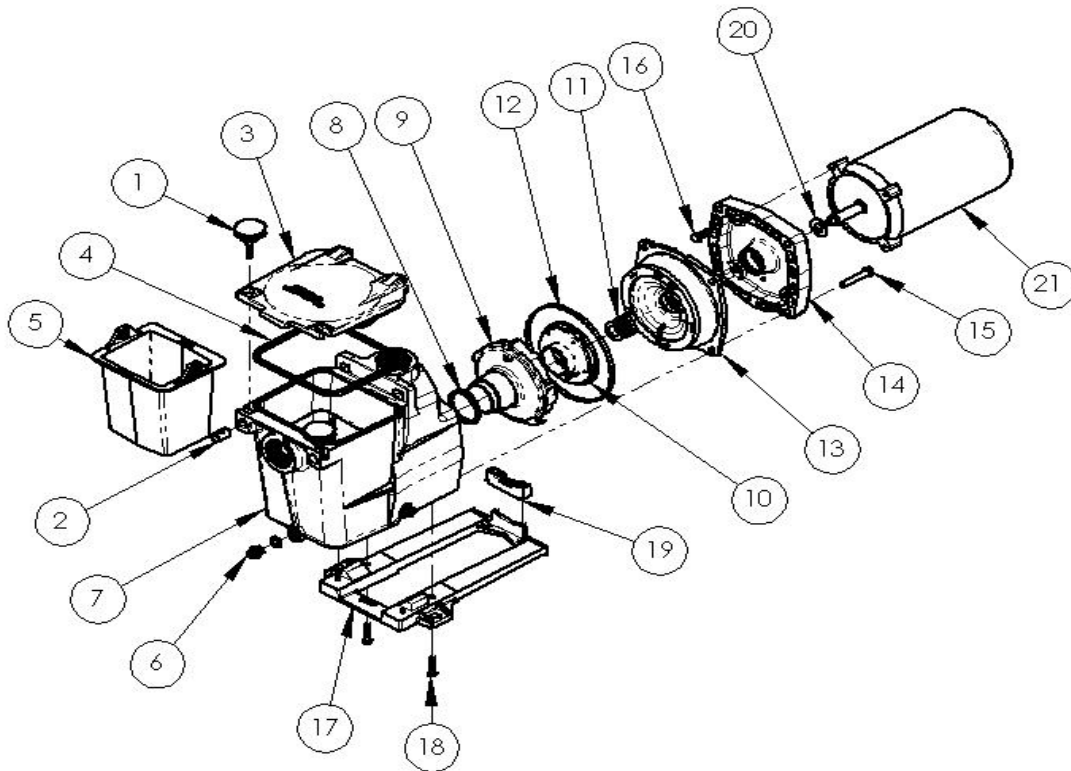
Replacing the Impeller and Diffuser (See Parts Diagram on page 11 of this manual for pump component locations.)

11. Place the **seal plate** onto the **motor mounting plate**, aligning the tabs on the **seal plate** with the grooves on the **motor mounting plate**.
12. Screw the **impeller** onto the motor shaft in a clockwise direction. Tighten snugly by holding motor shaft with wrench as noted in step #4.
13. Place the **diffuser** over the **impeller** onto the **seal plate** fitting positioning lug between the two (2) guides.

Replacing the Motor Assembly (See Parts Diagram on page 11 of this manual for pump component locations.)

14. Fasten motor end cover by using the two (2) hex shaped screws. Slide the motor assembly with the **diffuser** in place, into **pump/strainer housing**, being careful not to disturb the **diffuser gasket**.
15. Fasten assembly to **pump/strainer housing** using the four (4) 3/8" x 2" **housing cap screws**. (Be sure **housing gasket** is in place, and replace if damaged). Tighten alternately and evenly.

Replacement Parts Parts Diagram



Parts Listing

REFERENCE NUMBER	DESCRIPTION	NUMBER REQUIRED	PART NUMBER					
			MODEL SP2600X5	MODEL SP2605X7	MODEL SP2607X10	MODEL SP2610X15	MODEL SP2615X20	MODEL SP2621X25
1	HAND KNOB	2	SPX1600P	SPX1600P	SPX1600P	SPX1600P	SPX1600P	SPX1600P
2	SWIVEL NUT	2	SPX1600N	SPX1600N	SPX1600N	SPX1600N	SPX1600N	SPX1600N
3	STRAINER COVER	1	SPX1600D	SPX1600D	SPX1600D	SPX1600D	SPX1600D	SPX1600D
4	STRAINER COVER GASKET	1	SPX1600S	SPX1600S	SPX1600S	SPX1600S	SPX1600S	SPX1600S
5	BASKET	1	SPX1600M	SPX1600M	SPX1600M	SPX1600M	SPX1600M	SPX1600M
6	DRAIN PLUG W/ GASKET	2	SPX1700FG	SPX1700FG	SPX1700FG	SPX1700FG	SPX1700FG	SPX1700FG
7	PUMP/STRAINER HOUSING	1	SPX1600AA	SPX1600AA	SPX1600AA	SPX1600AA	SPX1600AA	SPX1620AA
8	DIFFUSER GASKET	1	SPX1600R	SPX1600R	SPX1600R	SPX1600R	SPX1600R	SPX1600R
9	DIFFUSER	1	SPX2600B	SPX2600B	SPX2600B	SPX2600B	SPX2600B	SPX1616B
10	IMPELLER	1	SPX2600C	SPX2605C	SPX2607C	SPX2610C	SPX2615C	SPX1621C
11	SEAL ASSEMBLY	1	SPX1600Z2	SPX1600Z2	SPX1600Z2	SPX1600Z2	SPX1600Z2	SPX1600Z2
12	HOUSING GASKET	1	SPX1600T	SPX1600T	SPX1600T	SPX1600T	SPX1600T	SPX1600T
13	SEAL PLATE	1	SPX2600E5	SPX2600E5	SPX2600E5	SPX2600E5	SPX2600E5	SPX1611E5
14	MOTOR MOUNTING PLATE	1	SPX1600F5	SPX1600F5	SPX1600F5	SPX1600F5	SPX1600F5	SPX1600F5
15	HOUSING CAP SCREW	4	SPX1600Z4	SPX1600Z4	SPX1600Z4	SPX1600Z4	SPX1600Z4	SPX1600Z4
16	MOTOR CAP SCREW	4	SPX125Z4	SPX125Z4	SPX125Z4	SPX125Z4	SPX125Z4	SPX125Z4
17	MOUNTING FOOT [WILL INCLUDE ADAPTER (19) AND SCREWS(18)]	1	SPX2600G1	SPX2600G1	SPX2600G1	SPX2600G1	SPX2600G1	SPX2600G1
18	MOUNTING FOOT CAP SCREW	2	SPX1600Z5	SPX1600J	SPX1600J	SPX1600J	SPX1600J	SPX1600J
19	MOUNTING FOOT ADAPTER	1	SPX2600Q	SPX2600Q	SPX2600Q	SPX2600Q	SPX2600Q	SPX2600Q
20	SLINGER	1	SPX0125F	SPX0125F	SPX0125F	SPX0125F	SPX0125F	SPX0125F
21	MOTOR-60 CYCLE SINGLE PHASE [WILL INCLUDE SLINGER(20)]	1	SPX1600Z1M	SPX1605Z1M	SPX1607Z1M	SPX1610Z1M	SPX1615Z1M	SPX1620Z1M

Troubleshooting

Motor Will NOT Start – Check For:

Make sure the terminal board connections agree with the wiring diagram on motor data plate label. Be sure motor is wired for available field supply voltage.

1. Improper or loose wiring connections; open switches or relays; tripped circuit breakers, GFCI's, or blown fuses.

Solution: Check all connections, circuit breakers, and fuses. Reset tripped breakers or replace blown fuses.

2. Manually check rotation of motor shaft for free movement and lack of obstruction.

Solution: Refer to Steps 4 & 5 of “Shaft Seal Change Instructions” in this manual.

3. If you have a timer, be certain it is working properly. Bypass it if necessary.

Motor Shuts OFF – Check For:

1. Low voltage at motor or power drop (frequently caused by undersized wiring or extension cord use).

Solution: Contact qualified professional to check that the wiring gauge is heavy enough.

NOTE - Your Hayward pump motor is equipped with an “automatic thermal overload protector.” The motor will automatically shut off if power supply drops before heat damage can build up causing windings to burn out. The “thermal overload protector” will allow the motor to automatically restart once the motor has cooled. It will continue to cut On/Off until the problem is corrected. **Be sure to correct cause of overheating.**

Motor Hums, But Does NOT Start – Check For:

1. Impeller jammed with debris.

Solution: Have a qualified repair professional open the pump and remove the debris.

Pump Won't Prime, Check For:

1. Empty pump/strainer housing.

Solution: Make sure pump/strainer housing is filled with water and cover o-ring is clean. Ensure o-ring is properly seated in the cover o-ring groove. Ensure o-ring is lubricated with “Jack’s 327” and that strainer cover is locked firmly in position. Lubricant will help to create a tighter seal.

2. Loose connections on suction side.

Solution: Tighten pipe/union connections.

NOTE - Any self-priming pump will not prime if there are suction air leaks. Leaks will result in bubbles emanating from return fittings on pool wall.

3. Leaking O-ring or packing glands on valves.

Solution: Tighten, repair, or replace valves.

4. Strainer basket or skimmer basket loaded with debris.

Solution: Remove strainer housing cover or skimmer cover, clean basket, and refill strainer housing with water. Tighten cover.

5. Suction side clogged.

Solution: Contact a qualified repair professional.

Block off to determine if pump will develop a vacuum. You should have 5”-6” of vacuum at the strainer cover (**Only your pool dealer can confirm this with a vacuum gauge**). You may be able to check by removing the skimmer basket and holding your hand over the bottom port with skimmer full and pump running. If no suction is felt, check for line blockage.

- a. If pump develops a vacuum, check for blocked suction line or dirty strainer basket. An air leak in the suction piping may be the cause.
- b. If pump does not develop a vacuum and pump has sufficient “priming water”:
 - i. Re-check strainer housing cover and all threaded connections for suction leaks. Check if all system hose clamps are tight.
 - ii. Check voltage to ensure that the motor is rotating at full RPM's.
 - iii. Open housing cover and check for clogging or obstruction in suction. Check impeller for debris.
 - iv. Remove and replace shaft seal only if it is leaking.

Low Flow – Generally, Check For:

1. Clogged or restricted strainer or suction line.

Solution: Contact a qualified repair professional.

Low Flow – Generally, Check For: (cont'd.)

2. Undersized pool piping.

Solution: Correct piping size.

3. Plugged or restricted discharge line of filter, valve partially closed (high gauge reading).

Solution: Sand filters – backwash as per manufacturer’s instructions; D.E. filters – backwash as per manufacturer’s instructions; Cartridge filters – clean or replace cartridge.

4. Air leak in suction (bubbles issuing from return fittings).

Solution: Re-tighten using Teflon tape.

5. Plugged, restricted, or damaged impeller.

Solution: Replace including new seal assembly.

Noisy Pump – Check For:

1. Air leak in suction piping, cavitations caused by restricted or undersized suction line or leak at any joint, low water level in pool, and unrestricted discharge return lines.

Solution: Correct suction condition or throttle return lines, if practical. Holding hand over return fitting will sometimes prove this point or putting in a smaller eyeball fitting.

2. Vibration due to improper mounting, etc.

Solution: Mount the pump on a level surface and secure the pump to the equipment pad.

3. Foreign matter in pump housing. Loose stones/debris hitting impeller could be cause.

Solution: Clean the pump housing.

4. Motor bearings noisy from normal wear, rust, overheating, or concentration of chemicals causing seal damage which will allow chlorinated water to seep into bearings wiping out the grease causing bearing to whine.

Solution: All seal leaks should be replaced at once.

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PRODUCT REGISTRATION <small>(Retain For Your Records)</small>	
DATE OF INSTALLATION _____	
INITIAL PRESSURE GAUGE READING (CLEAN FILTER) _____	
PUMP MODEL _____	HORSEPOWER _____
FILTER MODEL _____	SERIAL NUMBER _____

HAYWARD® LIMITED WARRANTY

This pump was inspected before shipment from our plant. To original purchasers of this pump, Hayward Pool Products, Inc., 620 Division Street, Elizabeth, New Jersey, warrants its products free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Parts which fail or become defective during the warranty period, except as a result of freezing, negligence, improper installation, use, or care, shall be repaired or replaced, at our option, without charge, within 90 days of the receipt of defective product, barring unforeseen delays.

To obtain warranty replacements or repair, defective components or parts should be returned, transportation paid, to the place of purchase, or to the nearest authorized Hayward service center. For further Hayward dealer or service center information, contact Hayward customer service department. No returns may be made directly to the factory without the express written authorization of Hayward Pool Products, Inc.

To original purchasers of this pump, Hayward Pool Products, Inc. warrants its pump housing/strainer to be free from defects in materials and workmanship for a period of **ONE (1)** year from the date of purchase.

Pump housing/strainers which become defective during the warranty period, except as a result of freezing, negligence, improper installation, use or care, or as the result of a use in association with an automatic valving system, shall be repaired, at our option, without charge.

All other conditions and terms of the standard warranty apply.

Hayward shall not be responsible for cartage; removal and/or reinstallation labor or any other such costs incurred in obtaining warranty replacements.

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.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion 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.

Hayward Pool Products, Inc.
620 Division Street
Elizabeth, NJ 07207

*Supersedes all previous publications.

▲ 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.



HAYWARD®

Mail to: Hayward Pool Products, Inc., 620 Division Street, Elizabeth, NJ 07207, Attn: Warranty Dept.

Warranty Registration Card

Name _____

Years pool has been in service less than 1 1-3 3-5 5-10

Address _____

Purchased from: _____

City _____ State _____ Zip _____

Company name _____

E-mail Address _____

Address _____

Product Purchased _____

City _____ State _____ Zip _____

Product Serial No. _____

New Installation Replacement

Type of In-Ground Pool:

Vinyl Fiberglass Gunite

Size of Pool _____

Please send me more information on these other products from Hayward:

- Pump Filter Automatic Pool Cleaner Light
- Chlorinator Skimmer Heater Heat Pump
- Salt/Chlorine Generator Controls