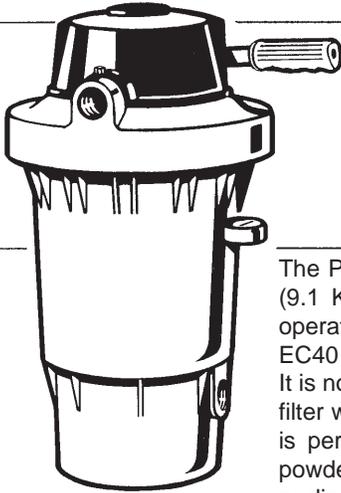


OWNER'S GUIDE

HAYWARD·PERFLEX®

Extended Cycle FILTER

MODEL EC40 SERIES



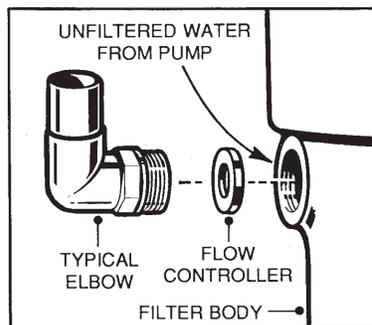
The Perflex Model EC40 is a high performance swimming pool filter with a filtration rating of 2,400 gallons (9.1 KL) per hour. Manufactured from durable, corrosion-proof materials, it is designed for continuous operation, for installation above or below the pool water line, for fresh or salt water swimming pools. The EC40 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 its dirt holding capacity has been reached. Through 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 and hardware furnished with 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 65 GPM (114-246 LPM). Since 40 GPM (150 LPM) is the desired maximum filter flow, a flow controller (part number ECX1055) is furnished with each unit for use with pumps rated between 40 and 65 GPM (150-246 LPM). Install the flow controller in the filter body as illustrated with an elbow adapter, union connector, or adapter. The adapter both secures the controller in its proper position, and completes the hydraulic balance of the system.



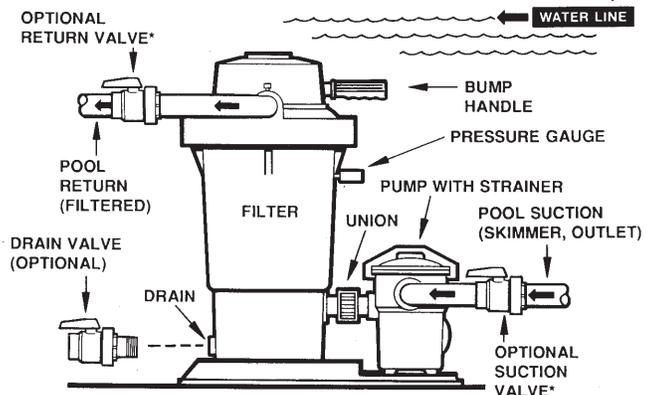
FILTER LOCATION

1. Since plumbing fittings offer a resistance to water flow, locate the filter as close to the swimming pool as practical. Keep the number of fittings to a minimum. Select a well-drained area, one that will not flood when it rains.
2. Set the filter on a *level* platform or base. 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.
3. Position the filter so the tank can drain by gravity.

PLUMBING

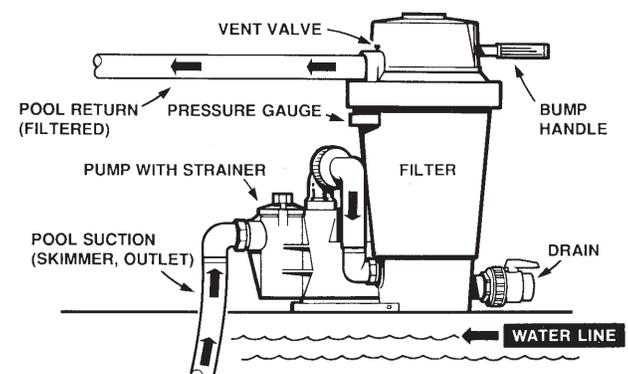
1. Use 1-1/4" or 1-1/2" I.D. flexible plastic pipe, or hose, joined with insert fittings and stainless steel clamps. If a rigid pipe is used, be sure to provide unions for easy servicing.
2. Ball-style control valves are recommended.
3. All plumbing connections on the EC40 filter are 1-1/2" N.P.T. When making connections to the filter, use plastic male-end adapters. Apply three turns of Teflon tape or plastic pipe sealant to the male threads.

PREFERRED FILTER LOCATION – BELOW WATER LINE



*Not furnished with filter.

FILTER LOCATION – ABOVE WATER LINE



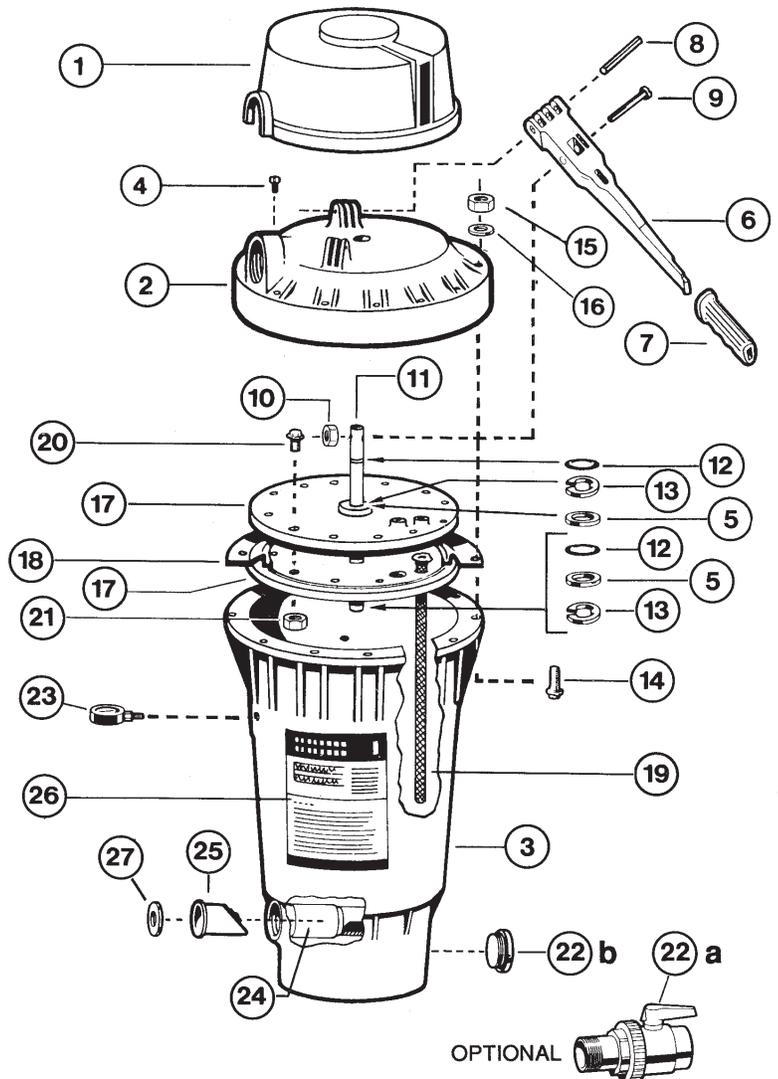
SPECIFICATIONS

MODEL NO.	EFFECTIVE FILTRATION AREA		DESIGN FLOW RATE				PRESSURE LOSS AT DESIGN FLOW RATE				MAXIMUM WORKING PRESSURE		REQUIRED CLEARANCE			
			RESIDENTIAL		PUBLIC		RESIDENTIAL		PUBLIC				SIDE		ABOVE	
EC40	19 ft. ²	1.8 m ²	38 GPM	144 LPM	38 GPM	144 LPM	3 PSI	0.2 BAR	3 PSI	0.2 BAR	50 PSI	3.45 BAR	12 inch	30 cm	18 inch	46 cm

NOTE: ANSI/NSPI-4 Article V, standard for above-ground and on-ground pools, advises that components such as the filtration system, pumps and heater be positioned so as to prevent their being used as a means of access to the pool by young children.

PARTS MODEL EC40 SERIES FILTER

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D.
1	EC1006	Bump Mechanism Cover	1
2	EC1033B	Filter Head w/Vent Valve	1
3	ECX10344	Filter Body w/Flow Diffuser	1
4	ECX1321A	Vent Valve w/O-Ring	1
5	ECX1011	Thrust Washer	2
6	ECX1040	Bump Handle Assembly	1
7	ECX1037B	Bump Handle Grip	1
8	ECX100Z9	Pivot Pin	1
9	ECX4236	Shoulder Screw	1
10	ECX4249	Locknut	1
11	ECX1009	Bump Shaft	1
12	ECX9611246	O-Ring	2
13	ECX1014	Retainer	2
14	ECX10271	Filter Head Screw	12
15	ECX176855	Filter Head Nut	12
16	ECX1077	Washer	12
17	ECX1004	Tube Sheet (Top or Bottom)	2
18	ECX1003	Diaphragm Gasket	1
19	ECX1031	Flex-Tube™ Assembly	72
20	SPX1500N1	Tube Sheet Screw	12
21	SPX1500Y1	Tube Sheet Nut	12
22a	SP0723	1-1/2" Ball-Type Drain Valve	1
22b	SPX1022C	Plug w/Gasket	1
23	EC2708	Pressure Gauge	1
24	ECX1005	Flow Diffuser	1
25	ECX4077B	Check Valve	1
26	ECX1028	Decal — Operation	1
27	ECX1055	Flow Controller	1
---	ECX1035	Flex-Tube Nest (Incls. 5, 9, 10, 11, 14 thru 15)	1



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 broken or damaged fittings.

4. Refer to the diagrams for suggested valving.
5. Connect the pool suction plumbing between the skimmer, pool outlet, etc., and the pump.
6. Install the pool return plumbing.
7. 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 an appropriate length of 1 1/2" pipe. Piping must slope away from the filter so the tank can drain by gravity. *DO NOT* use roll-flat type hose for drain piping.

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 Pitcher 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 precoating. *DO NOT* operate the filter for more than one minute without the precoat charge.

PRECOATING

Scoop 4 lbs. (1.8 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 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 filter drain and open the vent valve (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. Carefully pry the bump cover from the head 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.
3. Rotate the bump handle to the alternate position and align the handle and the head anchor holes. Tap the pivot pin in place.
4. 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 added 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 and take extreme 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.

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.

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.



HAYWARD POOL PRODUCTS, INC.

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2880 Plymouth Drive
Oakville, Ontario L6H 5R4

Hayward S.A.
Zone Industrielle de Jumet
B - 6040 Charleroi (Belgium)

HAYWARD®

OWNER'S MANUAL INSTALLATION, OPERATION, & PARTS



Perflex Extended Cycle Filtration System EC40C90 Series

The Hayward® Perflex™ Filtration System is specifically designed for the demanding requirements of today's above-ground swimming pools. The advanced design reduces maintenance requirements while providing superior performance.

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

⚠ CAUTION – We highly recommend a qualified professional install and service this product.

⚠ WARNING – This manual contains important safety information that must be furnished to the end user of this product. **FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS COULD RESULT IN SERIOUS INJURY.**

SAVE THIS INSTRUCTION MANUAL



HAYWARD POOL PRODUCTS, INC.

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Allée des Chênes
01150 Saint Vulbas
France

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

IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following: Failure to follow instructions may result in injury.

READ AND FOLLOW ALL INSTRUCTIONS IN THIS OWNER’S MANUAL AND ON EQUIPMENT.

KEEP SAFETY LABELS IN GOOD CONDITION AND REPLACE IF MISSING OR DAMAGED.

⚠ WARNING – To reduce risk of injury, do not permit children to use or climb on this product. The ANSI/NSPI 4 Standard (above-ground and on-ground pools) advises that components such as the filtration system, pumps, and heaters be positioned to prevent their being used as a means of access to the pool by young children. Closely supervise children at all times.

⚠ CAUTION – The Perflex™ Filtration System is intended for use on permanently installed above-ground 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.

Bond motor to pool structure. Use a solid copper conductor, size 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 or conduit within 5 ft. (1.5 m) of inside walls of swimming pool, spa, or hot tub. (In Canada use No. 6 AWG bonding wire.)

Perflex™ Extended Cycle Filtration System

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 following three (3) items apply.



⚠ WARNING – Risk of Electric Shock. Connect only to a grounding type receptacle protected by a Ground Fault Circuit Interrupter (GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI.

⚠ WARNING – To reduce the risk of electric shock replace damaged cord immediately. Do NOT bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers and other equipment.

⚠ WARNING – To reduce the risk of electric shock, do NOT use an extension cord to connect unit to electric supply. Provide a properly located outlet. Qualified personnel MUST do all electrical wiring.



⚠ CAUTION – All suction and discharge valves **MUST** be **OPEN** when starting the filter system. Failure to do so could result in severe personal injury and/or property damage. All drains and suction covers **MUST** have properly installed covers securely attached with the screws supplied with the covers. If screws are lost, order replacement parts from your supplier.

⚠ DANGER – Suction Entrapment Hazard. Never use the pool or spa if a drain cover is damaged, cracked, missing, or not securely attached. Suction in drains and suction outlets can cause drowning, disembowelment, hair or body entrapment, severe injury, and death. Disembowelment, entrapment, or drowning is possible when body parts or hair come in contact with damaged, broken, cracked, missing, or unsecured drain covers and suction outlets. Suction from pumps with only one drain or suction outlet can cause disembowelment, entrapment, or drowning. Pumps for pools and spas require two (2) functioning suction outlets at least three (3) feet apart, on two (2) walls or on the floor and one (1) wall of the pool or spa. Installation of pump and suction outlets must be in compliance with all applicable local building codes. Replace damaged, broken, cracked, missing, or unsecured drain covers and suction outlets immediately.

⚠ 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. A qualified pool professional **MUST** conduct all pressure tests. This product is intended for above-ground/on-ground swimming pool applications only. Do NOT connect to a high-pressure system such as a municipal water main. To prevent explosion caused by entrapped air in the filtration system use provided air relief valve to bleed air from the system. Confirm that **ALL** filtration system component clamps, bolts, and covers have been tightened to the manufacturer's recommendations.

⚠ WARNING – Never operate or test the filtration system at more than 30 PSI.

SAVE THESE INSTRUCTIONS

Perflex™ Extended Cycle Filtration System

General Information

Introduction

This manual contains information for the proper installation and operation of the Hayward® Perflex™ Filtration System. All Perflex™ Filtration models are high performance, above-ground swimming pool filters. Instructions in this manual **MUST** be followed precisely.

The Hayward Perflex System is a high performance swimming pool filter system having an output rating of 2,400 gallons (9.1 KL) per hour. Manufactured from durable, corrosion-proof materials, the filter and pump are combined on a strong, molded mounting base. The system is designed for continuous operation and for installation below the pool water line. It may be used on fresh or salt-water swimming pools.

The Perflex Filter System uses diatomite filter powder (commonly called D.E.). D.E. is the most efficient dirt remover known for swimming pool filtration. 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.

The Hayward Perflex D.E. filter provides the deepest, most comprehensive clean, removing microscopic dust and pollen as small as one micron - 100 times smaller than a grain of salt. It takes care of debris the first time through, so you can run it fewer hours per day.

Patented Flex-Tubes™ make the Hayward Perflex D.E. filter unique. D.E. filter powder coats the tubes and traps dirt and impurities as they pass through the filter. When the accumulated dirt builds up pressure and decreases the flow, conventional filters require backwashing. But with the Hayward Perflex D.E. filter, simply move the unique "Bump" handle up and down a few times to automatically activate the Flex-Tubes, repositioning the dirt and D.E. within the filter and extending the filter cycle. Through 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.

The Power-Flo Matrix™ Pump Series has been engineered as a uniquely superior above-ground pool pump. With the single push of a button, this truly versatile pump changes from a vertical to a horizontal discharge and back again. It's large profile and integrated styling makes the Power-Flo Matrix a swimming pool pump like no other. It is driven by a heavy duty motor, which is electrically isolated and insulated from the pool water. Output pressure and flow are tuned to the filter, resulting in a perfectly balanced, non-corrosive system.

Product Features

- Designed for large above-ground pools
- Clamp for the EC40AC model requires only two (2) nuts and bolts
- Power-Flo Matrix™ Series high-performance pump
- Quick-connect union
- Modular platform base

Perflex™ Filtration Performance Data

Model No.		EC30	EC40C	EC50C
Effective Filtration Area		15 FT²	20 FT²	25 FT²
Design Flow Rate		30 GPM	40 GPM	50 GPM
Turnover	8 hours	14,400 GAL	19,200 GAL	24,000 GAL
	12 hours	21,600 GAL	28,800 GAL	36,000 GAL

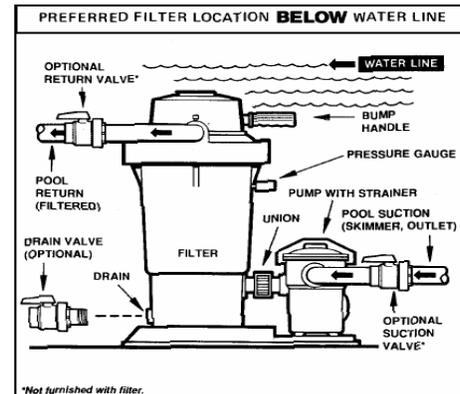
Installation Instructions

System Location

For best pump performance, the system **MUST** be located below the pool water line (See Figure to the right).

Install the system on a firm, level base or pad to meet all local and national codes. The field supplied base or pad must be level and vibration-free. 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.

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. Pump motors require free circulation of air for cooling. Do not install pump in a damp or non-ventilated location.



NOTE: ANSISPI-4 Article V, standard for above-ground and on-ground pools, advises that components such as the filtration system, pumps, and heater be positioned so as to prevent their being used as a means of access to the pool by young children.

Plumbing & Installation

1. To facilitate servicing of the filter system and to allow for indoor storage during the winter months, installing union connections at the suction and outlet ports is recommended.
2. Use 1-1/4" or 1-1/2" I.D. flexible plastic pipe, or hose, joined with insert fittings and stainless steel clamps.
3. All plumbing connections on the system are 1 1/2" N.P.T. When making connections, use plastic male-end adapters. Apply three (3) turns of Teflon tape or plastic pipe sealant to the male threads. Screw the fitting into the thread hand-tight; then using a wrench, tighten one more full turn, if necessary. (NOTE: Adapters have varying tolerances and over-tightening with a wrench may only cause damage to the filter.) Ball type valves are recommended where needed.
4. 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.
5. Tighten pump base mounting bolts, if loose.
6. Securely *hand tighten* the union nut between the filter and pump.
7. Connect the pool suction plumbing between the skimmer, pool outlet, and the pump. Connect the pool return (inlet) plumbing.
8. If 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.
9. A filter 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.
10. All electrical connections should be made in accordance with applicable electrical codes.
11. Check for joint leaks before operating system.
12. Refer to pump instruction booklet for pump information.

Prior to Start-Up

Before Starting the Filter System

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.

Important Safety Instructions - Read and follow all instructions

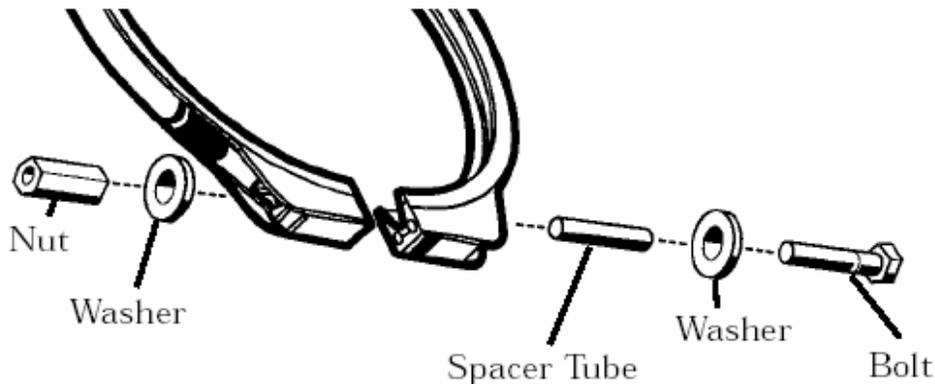
When installing and using this equipment, basic safety precautions MUST always be followed.

⚠ WARNING – Pump and Filter System Operates Under High Pressure. Failure to follow instructions may result in serious injury.

1. Always turn OFF pump and relieve tank pressure by opening Air Relief Valve before loosening Center Clamp or servicing filter.
2. To re-assemble Clamp on filter, make sure Clamp is located and centered properly over the filter flange. If Clamp is tight, tap Clamp with rubber mallet or block of wood to help seat it.

Slide a Washer over each Bolt followed by a Spacer Tube. Insert Bolt assembly through both Clamp Halves. Slide on a Washer, secure with Hex Nut and hand tighten. Repeat on other side of Clamp.

Alternately tighten both Bolt assemblies using a wrench and socket (1/2" drive). Alternately tighten until Spacer Tube is engaged (approx. 100 in-lbs.). Finally, tighten ¼ to ½ turn to secure (approx. 100 in-lbs.).



3. To re-start system, open all in-line valves. Open Air Relief Valve before starting pump. Stand clear of filter and prime and start the pump per the manufacturer's instructions. When a steady stream of water emerges from the Air Relief Valve, close Air Relief Valve.

Start-Up & Operation

Starting the Filter

Close the filter drain and the vent valve.

⚠ CAUTION – All suction and outlet valves MUST be OPEN before operating the filter system. Failure to do so could cause severe personal injury and/or property damage.

1. Prime and start the pump following the manufacturer's instructions.
2. Air trapped in the system will automatically vent to the pool. Once air has escaped the filter and a steady stream of water is returning to the pool, the filter is ready for pre-coating. DO NOT operate the filter for more than one (1) minute without the pre-coat charge.

Pre-Coating

Scoop 4 lbs. (1.8 kgs.) or 6 No. 1 coffee cans of diatomite (D.E.) into the system through the skimmer as fast as the plumbing will take it. Note and record the pressure gauge reading after the diatomite (D.E.) has been added. This is the "Pre-Coat Pressure".

Filtering

Filtration starts as soon as the filter has been pre-coated. 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 pre-coat 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 pressure gauge 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 plug (Note: If the filter is installed below the pool water line, close the suction and outlet 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 plug and the vent valve. Open the suction and outlet 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 re-charging. Proceed as in "Starting the Filter" and "Pre-Coating".

Vacuuming

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

Start-Up & Operation (cont.)

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.
3. Rotate the bump handle to the alternate position and align the handle and the head anchor holes. Tap the pivot pin in place.
4. Reinstall the bump cover and grip.

Preventative 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 in accordance to the package instructions.

⚠ WARNING – Use a plastic container and take extreme care – harmful to eyes, skin, and clothing. Always wear rubber gloves and eye protection.

⚠ WARNING – Do NOT add water to acid.

⚠ WARNING – Do NOT mix chlorine and acid.

After cleaning, thoroughly flush all affected parts with cold water.

Winterization

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".

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.

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.

Perflex™ Extended Cycle Filtration System

Troubleshooting

Problem	Probable Cause	Remedy
Running at high pressures.	D.E. coated with normal accumulation of pool dirt, algae, etc.	Bump
	Overcharge of D.E.	Bump-Drain-Recharge.
	Restriction in return line caused by small eyeball fitting.	Change to larger size fitting.
	Partially closed valve on return line.	Open valve.
Drop off of return flow.	D.E. coated with normal accumulation of pool dirt, algae, etc.	Bump.
	Pump strainer basket clogged.	Clean.
	Skimmer basket clogged.	Clean.
	Pump impeller vanes clogged.	Cleaning with a stiff wire brush through the pump strainer opening will usually work. Alternate method would be to disassemble and clean.
	Air leak on suction side of pump.	Check cover gasket, hand knobs, hose, clamps, etc. Replace or tighten as necessary.
	Electric motor running less than maximum R.P.M. (underspeed).	Consult pump and motor troubleshooting guide. Note: Most motor problems are due to: 1. Undersized or improper wiring. 2. Power cut-backs. 3. Combination of both 1 & 2.
Short cycles.	D.E. loaded to capacity with pool dirt, algae, etc.	Bump-Drain-Recharge.
	Bumping incorrectly.	Slow down stroke - brisk up stroke. Repeat 6 times.
	Bump handle bent.	Check and straighten or replace.
	Pump output exceeds design flow rate of filter.	Check GPM/LPM output. Regulate pump GPM/LPM output to max. filter GPM/LPM rating.
	Presence of algae.	Super-chlorinate; Bump-Drain-Recharge as needed.

Perflex™ Extended Cycle Filtration System

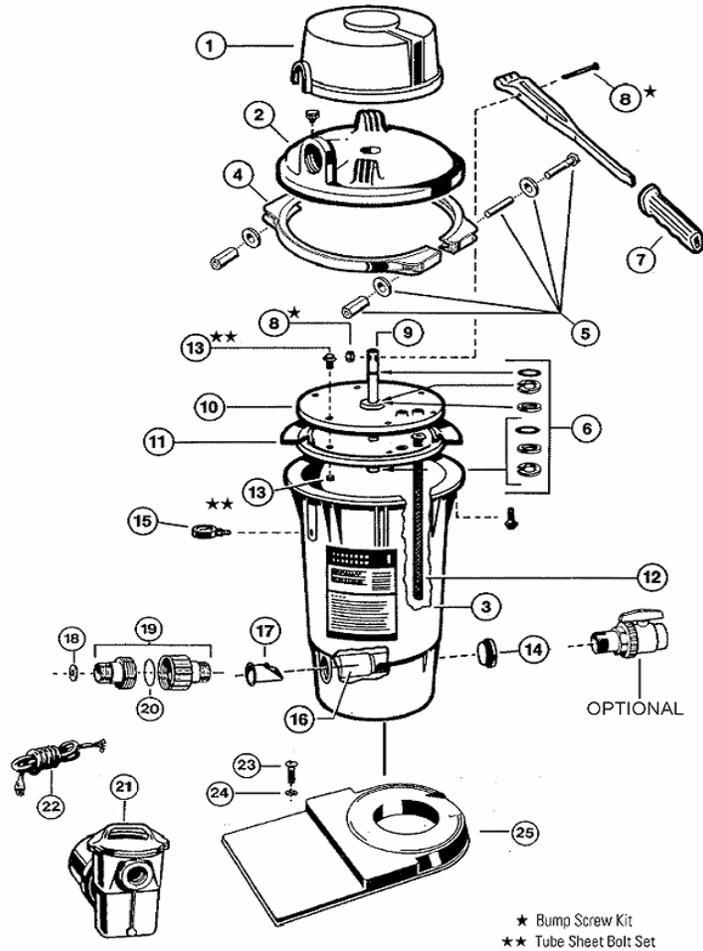
Troubleshooting (cont.)

Problem	Probable Cause	Remedy
Short cycles - even after proper Bump-Drain-Recharge.	Contaminated (clogged) Flex-Tube braids caused by: 1. Natural accumulation of chemical deposits (accelerated if chemicals are fed through skimmer). 2. Running D.E. charge too long with excessive amount of live algae present in pool. 3. Operating filter without D.E. 4. 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. IMPORTANT - Testing a new pool plumbing system without adding D.E. will cause this type of clogging.	Clean tube nest (2 methods) 1. 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 Cheer) and warm water. Hose down again. 2. Chemical Cleaning: This requires use of water and muriatic acid solution (or filter cleaner-type preparations) to chemically dissolve contaminants. Consult your pool dealer for chemical cleaning instructions.
D.E. leaking to pool via the return lines.	Opening or tear in one or more Flex-Tubes.	Replace Flex-Tube.
	Rip or hole in diaphragm gasket.	Replace gasket.
	Worn or loose fitting diaphragm gasket (chemicals fed through suction lines may shorten life of this part.)	Replace gasket.
	Loose bolts on tube nest plates.	Tighten bolts.
Hard bumping.	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.	Bump-Drain-Recharge more often and reduce the use of oils.
	Overloaded with D.E. Sometimes happens when last charge of dirty D.E. was not properly drained.	Bump-Drain-Recharge with proper amount of D.E.
	Filter runs too long between bumping.	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.	Very dirty water.	Bump-Drain-Recharge more often.
	Presence of live, vigorously growing algae.	Add enough chlorine to control this growth - then vacuum.
	Presence of alum or flocking agents which will clog filter.	Vacuum so as to bypass filter. Avoid using flocking agents.

Perflex™ Extended Cycle Filtration System

Replacement Parts

Parts Diagram



Parts Listing

Ref. No.	Part No.	Description	No. Req'd
1	ECX10066	Bump Mechanism Cover	1
2	ECX5000BP	Filter Head with Vent Valve	1
3	ECX4034	Filter Body with Flow Diffuser	1
4	ECX4000C	Clamp Assembly with Hardware	1
5	ECX4000CHK	Hardware Kit for Clamp Assembly	1
6	ECX1014A	Shaft Kit	1
7	ECX1037B	Bump Handle Grip-Noryl®	1
8	ECX4236A	Bump Handle Screw Kit	1
9	ECX5000F	Bump Shaft, 1/2"	1
10	ECX1004	Tube Sheet (Top/Bottom)	2
11	ECX5000G	Diaphragm Gasket	1
12	ECX1031	Flex-Tube Assembly (EC40)	72
13	SPX1500NYA	Tube Sheet Bolt Set	6
14	SP1022C	Plug with Gasket	1
—	SP0723	Ball-Type Drain Valve with Nipple	1
15	ECX27081	Pressure Gauge	1
16	ECX1256	Flow Diffuser with Check Valve	1
17	ECX4077B1	Check Valve	1
18	SPX1055	Flow Controller	1
—	ECX4035	Flex-Tube Nest (Includes 6, 9, 10, 11, 12, 13)	1
19	SP1480	1 1/2" Male Union	1
20	SPX142576	O-Ring	1
21	—	Power-Flo Matrix Pump	1
22	SPX1250WA	6 ft. Cord Set	1
23	ECX1108	Pump Mounting Screw	1
24	ECX1109	Washer	1
25	EC1161	Platform Base	1

HAYWARD® LIMITED WARRANTY

This filter system was inspected before shipment from our plant. To original purchasers of this filter system, 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.

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:
Company name _____

City _____ State _____ Zip _____

Address _____

E-mail Address: _____

City _____ State _____ Zip _____

Product Purchased _____

Product Serial No. _____

New Installation Replacement

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

Type of Pool:
 In-ground Vinyl Fiberglass Gunite Above-ground

Pump Filter Automatic Pool Cleaner
 Light Chlorinator Skimmer
 Heater

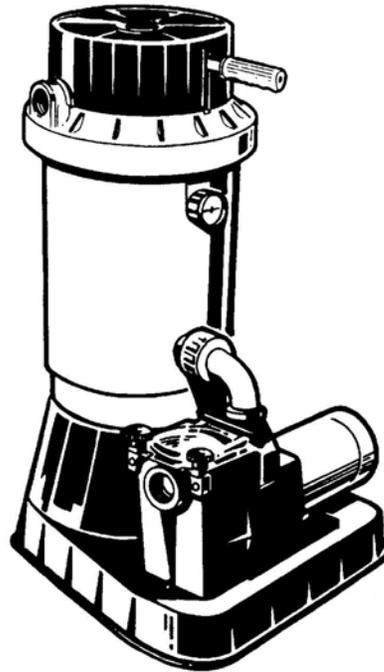
Size of Pool _____

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.

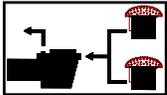
Evisceration/ Disembowelment - A negative pressure applied directly to the intestines through an unprotected suction outlet sump or suction outlet cover which is, damaged, broken, cracked, missing, or unsecured can result in evisceration/ disembowelment.

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.

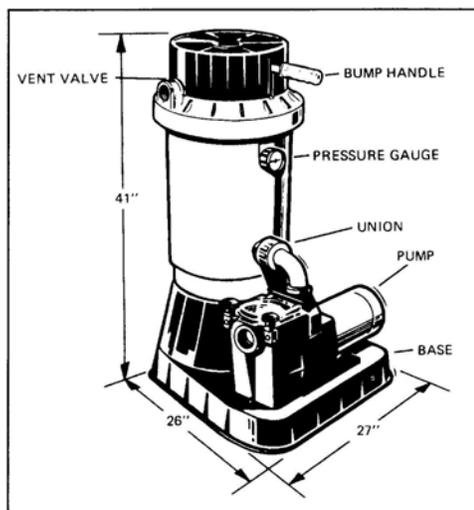
The Perflex filter uses diatomite filter powder (commonly called D.E.). D.E. is the most efficient dirt remover known. It is normally fed into the system through the skimmer when the filter is initially started; then drained from the filter when it can no longer efficiently remove dirt from the water. 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.

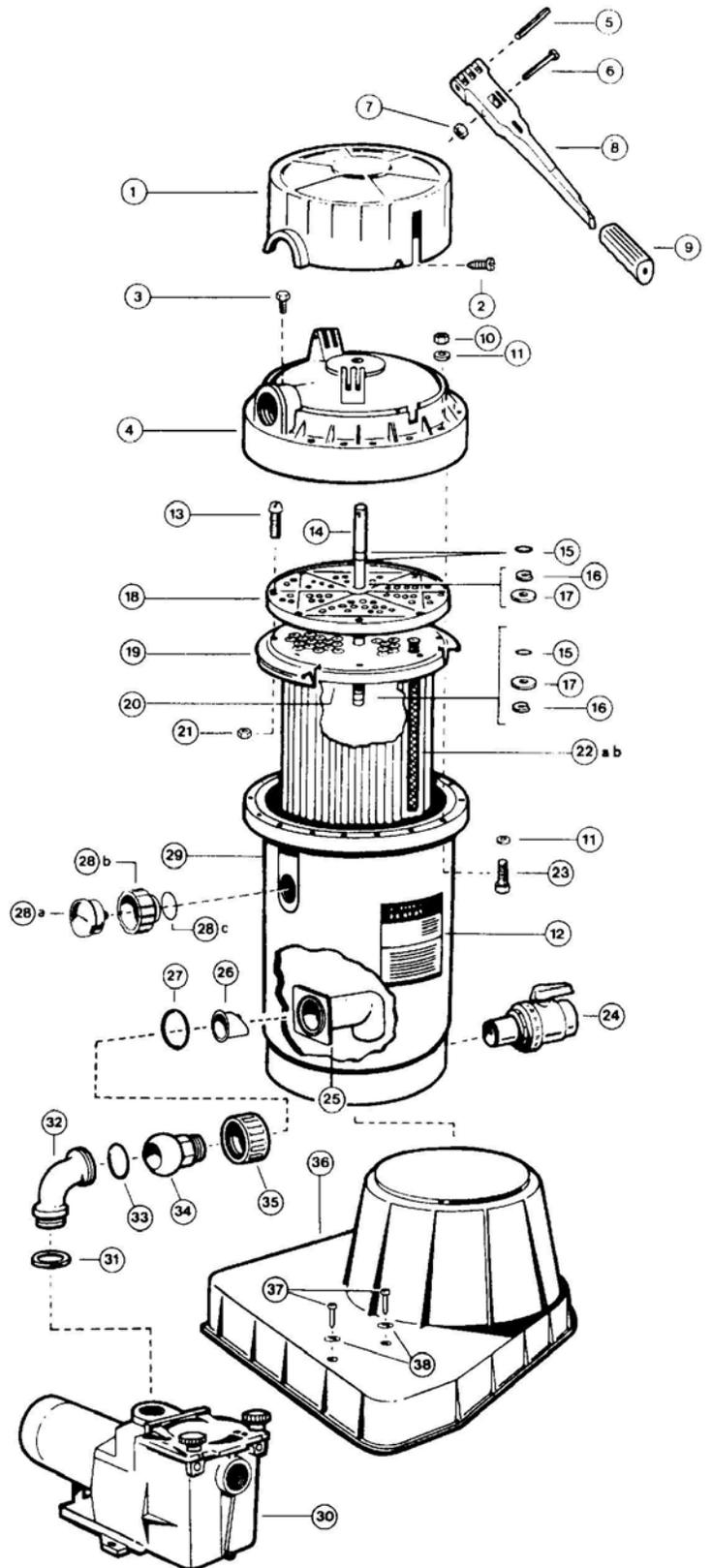
WINTERIZING

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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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.

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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.**

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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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