




# Super Pump® Series

A black and white photograph of a Hayward Super Pump. It is a compact, horizontal unit with a motor on the left and a pump housing on the right. The motor has a cooling fan and a terminal box. The pump housing has various ports and a control knob.

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SP2607X10

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## Important Safety Instructions



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

**⚠** This is the safety-alert symbol. When you see this symbol on your equipment or in this manual, look for one of the following signal words and be alert to the potential for personal injury.

**⚠ WARNING** warns about hazards that could cause serious personal injury, death or major property damage and if ignored presents a potential hazard.

**⚠ CAUTION** warns about hazards that will or can cause minor or moderate personal injury and/or property damage and if ignored presents a potential hazard. It can also make consumers aware of actions that are unpredictable and unsafe.

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

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

**⚠ CAUTION** – All electrical wiring **MUST** be in conformance with all applicable local codes, regulations, and the National Electric Code (NEC).

USE OF NON-HAYWARD REPLACEMENT PARTS VOIDS WARRANTY.

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

**⚠ 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.

## SAVE THESE INSTRUCTIONS



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**⚠ WARNING** – Pool and spa components (seals, gaskets, etc.) 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 – Risk of Electric Shock.** All electrical wiring **MUST** be in conformance with applicable local codes, regulations, and the National Electric Code (NEC). Hazardous voltage can shock, burn, and cause death or serious property damage. To reduce the risk of electric shock, do **NOT** use an extension cord to connect unit to electric supply. Provide a properly located electrical receptacle. Before working on 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 – Risk of Electric Shock.** In accordance with the National Electric Code (NEC), connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI. The unit must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test circuit button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this pump. Disconnect the pump and have the problem corrected by a qualified service representative before using.

**⚠ 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.

**Notes to electrician:** Use a solid copper conductor, size 8 or larger. Run a continuous wire from external bonding lug to reinforcing rod or mesh. Connect a No. 8 AWG (8.4 mm<sup>2</sup>) [No. 6 AWG (13.3 mm<sup>2</sup>) for Canada] solid copper bonding wire to the pressure wire connector provided on the pump 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.

**⚠ 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 (symbols complements of APSP):



**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 differential 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 in section 4.3 below.
- 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 APSP standards and CPSC guidelines, follow all national, state, and local codes applicable.
- Installation of a vacuum release or vent system, which relieves entrapping suction, is recommended.



**⚠ WARNING – 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 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 pump is running. Before starting 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 mix) is discharged from the valve. 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 manual 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 –** Never operate the circulation system at more than 50 PSI maximum.

**⚠ 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 defined instructions may result in severe personal injury or death.

**SAVE THESE INSTRUCTIONS**



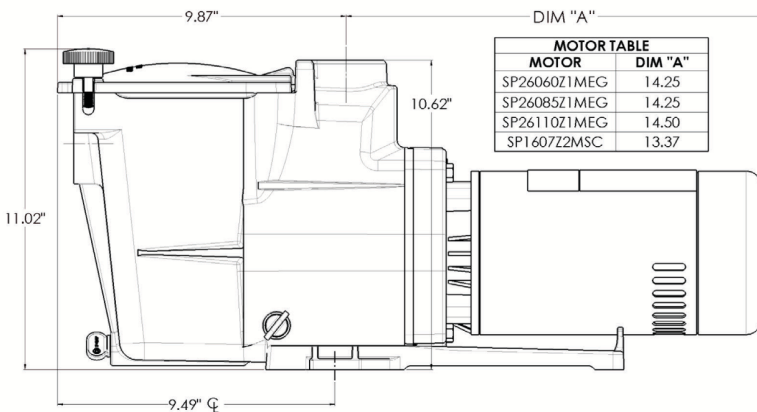
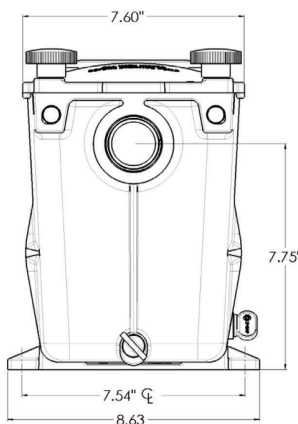
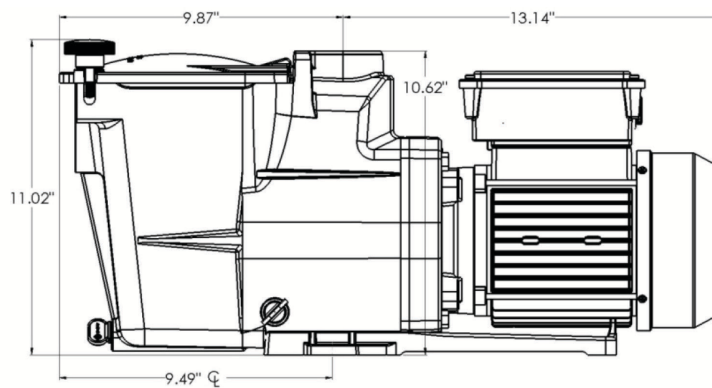
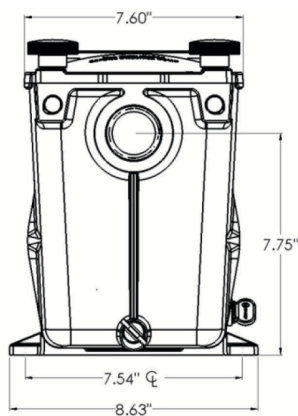


# HAYWARD®

## Overview

This manual contains information for the proper installation and operation of the Hayward Super Pump® 700 Series and MUST be followed precisely.

- 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 even with heavy debris loads.
- Exclusive swing-aside hand knobs make strainer cover removal simple and easy.
- See-thru strainer cover lets you see when the basket needs cleaning.
- All components molded of corrosion-proof reinforced thermoplastic 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. By disengaging just four (4) bolts, motor and entire drive group assembly can be removed, without disturbing pipe or mounting connections.

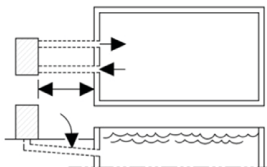




## Installation

### Pump Location and Mounting

Locate pump as close to the pool as possible, in compliance with local codes. To reduce friction loss, suction lines should run as direct as they can be. 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 advised to place pump and filter in the shade to shield them from continuous direct heat. Select a well-drained area that will not flood when it rains. Do NOT install pump and filter in a damp or non-ventilated location. Keep motor clean. Pump motors require free circulation of air for cooling.

Install pump on a level concrete slab or other rigid base to meet all local and national codes. Secure pump to base with screws or bolts to further reduce vibration and stress on pipe or hose joints. The base must be level, rigid, and vibration free.

Pump mount must:

- Allow use of short, direct suction pipe (to reduce friction losses).
- Allow for ball valves in suction and discharge piping.
- Be protected from excess moisture and flooding.
- Allow adequate access for servicing pump and piping.
- Incorporate a straight portion of pipe prior to pump inlet no less than (5) pipe diameters in length.

### Pipe Sizing Chart

MAXIMUM RECOMMENDED SYSTEM FLOW RATE BY PIPE SIZE						
Pipe Size in. [mm]	Flow Rate GPM [LPM]	Water Velocity ft/sec [m/s]		Pipe Size in. [mm]	Flow Rate GPM [LPM]	Water Velocity ft/sec [m/s]
1½"	50.8	8		2½"	119	8
[50]	[192]	[2.44]		[75]	[452]	[2.44]
2"	84	8		3"	184	8
[63]	[317]	[2.44]		[90]	[698]	[2.44]

**Note:** System design should allow a maximum of 8-ft/sec [2.44 meters/sec] water velocity in residential pool or spa piping. 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.

### Plumbing

When pump is installed in 1.5" pipe diameter system, use supplied bushing kit. Use PTFE 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 PTFE 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 PTFE tape as friction is reduced considerably; do NOT over-tighten fitting or you may cause damage. If leaks occur, remove connector, clean off old PTFE tape, re-wrap with one to two additional layers of PTFE tape, and re-install connector.

### Fittings

Fittings restrict flow. For better efficiency, use the fewest possible fittings. Avoid fittings that could cause an air trap. Use two or more suction outlets per pump installed in accordance with latest ASME, APSP Standards and CPSC guidelines, follow all National, State, and Local codes applicable.

### Electrical

**⚠ WARNING** – All electrical wiring MUST conform to local codes, regulations, and the National Electric Code (NEC).

**⚠ WARNING** – Ground and bond pump before connecting to electrical power supply. Failure to ground and bond pump can cause serious or fatal electrical shock hazard. Do NOT ground to a gas supply line. To avoid dangerous or fatal electrical shock, turn OFF power to pump before working on electrical



connections. Fire Hazard - match supply voltage to pump nameplate voltage. Insure that the electrical supply available agrees with the pump's voltage, phase, and cycle, and that the wire size is adequate for the amps rating and distance from the power source. Use copper conductors only.

### Electrical Specs

Refer to motor nameplate for voltage and current ratings. Use copper conductors only. For indoor & outdoor use. Connect pump to an appropriately sized/rated branch circuit protector in accordance with local codes, regulations, and the National Electric Code (NEC). A disconnecting means located at least 5 ft. from the inside wall of the pool, spa, or hot tub must be provided.

### Voltage

Voltage at pump MUST NOT be more than 10% above or below nameplate rated voltage, or components may overheat, causing overload tripping and reduced component life. If voltage is less than 90% or more than 110% of rated voltage when pump is running at full load, consult the power company.

### Grounding and Bonding

1. Install, ground, bond, and wire pump in accordance with local or national electrical code requirements.
2. Permanently ground pump. Use green ground terminal provided under access plate; use size and type wire required by code. Connect ground terminal to electrical service ground.
3. Bond pump 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.
4. 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 mm<sup>2</sup>) [No. 6 AWG (13.3 mm<sup>2</sup>) for Canada] 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** – All electrical wiring MUST conform to local codes, regulations, and National Electric Code (NEC). Pump MUST be permanently connected to circuit. Connect pump to an appropriately sized/rated branch circuit protector in accordance with local codes, regulations, and the National Electric Code (NEC). Use the circuit breaker as the master On-Off switch.

## Operation

**⚠ WARNING** – **Separation Hazard** - Failure to Open all suction and discharge valves could result in severe personal injury. To avoid OPEN all suction and discharge valves, as well as filter air relief valve (if available) on filter, when starting the circulating pump system.

### Starting/Priming the Pump

Pumps with single speed motors are self priming to 10 ft. and pumps with 2 speed motors are self priming to 10 ft. on high speed only. Fill strainer housing with water to suction pipe level. If water leakage occurs from anywhere on the pump or filter, DO NOT start the pump. If no leakage occurs, stand at least 10 feet from pump and/or filter and proceed with starting the pump.

**⚠ WARNING** – **Separation Hazard** - Failure to close the filter's manual air relief valve until a steady stream of water (not air or air and water) is discharged from valve could result in severe personal injury. To avoid, wait for a steady stream of water.

**NOTICE** – **Never Operate The Pump Without Water.** Water acts as a coolant and lubricant for the mechanical shaft seal. NEVER run pump dry. Running pump dry may damage seals, causing leakage, flooding, and voids warranty. Fill strainer housing with water before starting motor.



**NOTICE** – 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 details.
4. 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.
5. 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.
6. Replace strainer cover on strainer housing; turn strainer cover hand knobs clockwise to tighten cover. NOTE - Tighten strainer cover knobs by hand only (no wrenches).
7. OPEN VALVES in suction and outlet pipes.

Before re-starting pump, see "Starting/Priming the Pump" instructions.

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

Turn on power and wait for pump to prime, which may take up to ten (10) 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.

## Maintenance

- Clean strainer basket regularly. Do NOT strike basket. Inspect cover gasket regularly and replace as necessary.
- Hayward pumps have self-lubricating motor bearings and shaft seals. No lubrication is necessary.
- Keep motor clean. Keep motor air vents free of obstructions 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.

## Winterization / Storage

**⚠ 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.

**NOTICE** – Allowing the pump to freeze with water in it will void the warranty.

**NOTICE** – 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.

**⚠ WARNING** – Electrical Hazard - Failure to disconnect power may result in serious personal injury or death. To avoid, turn OFF power to motor before draining pump.

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 drained of water, re-install the strainer cover and drain plugs. Store pump in a dry area.





# HAYWARD®

## Shaft Seal Change Instructions

**▲ WARNING** – Electrical Hazard - Failure to disconnect power may result in serious personal injury or death. To avoid, turn OFF power to motor before servicing pump.

**NOTICE** – Only qualified personnel should attempt rotary seal replacement. Contact your local authorized Hayward Dealer or service center if you have any questions.

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 9 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 9 of this manual for pump component locations).

3. If necessary, remove the motor end cover by removing the two (2) screws or pry off the cap covering the motor shaft. TEFC motors do not require the motor end cover to be removed to access the shaft end.
4. To prevent motor shaft from turning, depending on which motor you have, secure shaft using a flat blade screwdriver, 1/4" hex driver, or 7/16" wrench on the motor shaft through the motor fan shroud.
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 if it was removed earlier.

### Removing the Ceramic Seat

(See Parts Diagram on page 9 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 9 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 9 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 screwdriver 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

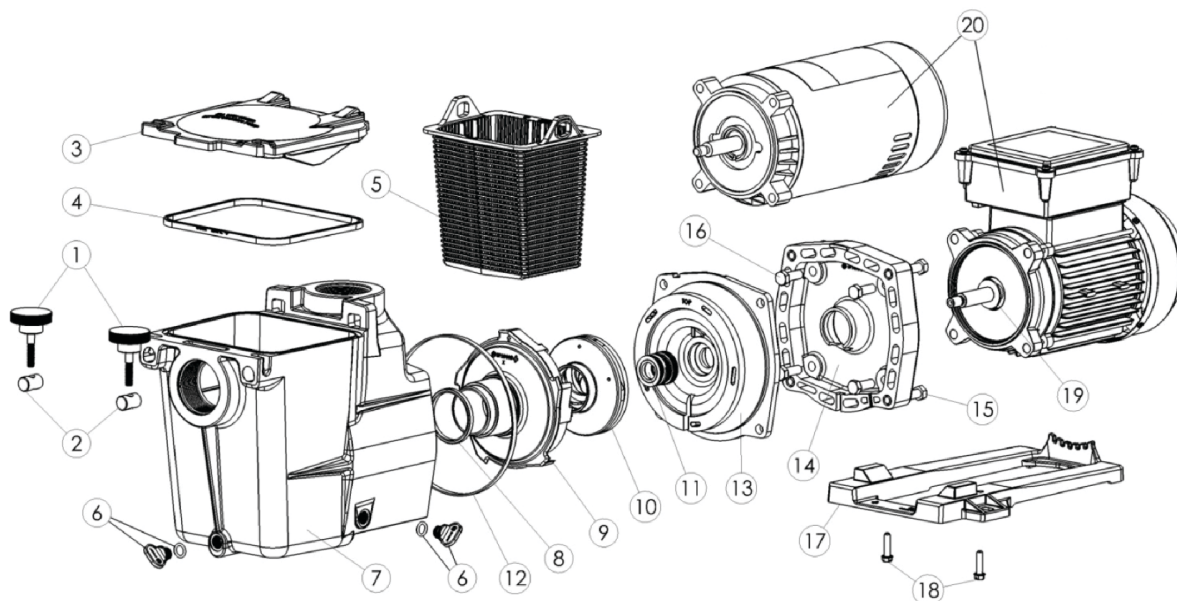
(See Parts Diagram on page 9 of this manual for pump component locations).

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.



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## Replacement Parts



REF #	Description	# Req'd	Part Number				
			SP2670007X10	SP2600X5	SP2605X7	SP2607X10	SP2607X102S
1	Hand Knob	2	SPX1600P	SPX1600P	SPX1600P	SPX1600P	SPX1600P
2	Swivel Nut	2	SPX1600N	SPX1600N	SPX1600N	SPX1600N	SPX1600N
3	Strainer Cover	1	SPX1600D	SPX1600D	SPX1600D	SPX1600D	SPX1600D
4	Strainer Cover Gasket	1	SPX1600S	SPX1600S	SPX1600S	SPX1600S	SPX1600S
5	Basket	1	SPX1600M	SPX1600M	SPX1600M	SPX1600M	SPX1600M
6	Drain Plug with Gasket	2	SPX4000FG	SPX4000FG	SPX4000FG	SPX4000FG	SPX4000FG
7	Pump / Strainer Housing	1	SPX1620AA	SPX1620AA	SPX1620AA	SPX1620AA	SPX1620AA
8	Diffuser Gasket	1	SPX1600R	SPX1600R	SPX1600R	SPX1600R	SPX1600R
9	Diffuser	1	SPX2600B	SPX2600B	SPX2600B	SPX2600B	SPX2600B
10	Impeller	1	SPX2607C	SPX2600C	SPX2605C	SPX2607C	SPX2607C
11	Seal Assembly	1	SPX1600Z2VIT	SPX1600Z2	SPX1600Z2	SPX1600Z2	SPX1600Z2
12	Housing Gasket	1	SPX1600T	SPX1600T	SPX1600T	SPX1600T	SPX1600T
13	Seal Plate	1	SPX2600E5	SPX2600E5	SPX2600E5	SPX2600E5	SPX2600E5
14	Motor Mounting Plate	1	SPX1600F5	SPX1600F5	SPX1600F5	SPX1600F5	SPX1600F5
15	Housing Cap Screw	4	SPX1600Z4	SPX1600Z4	SPX1600Z4	SPX1600Z4	SPX1600Z4
16	Motor Cap Screw	4	SPX0125Z4	SPX0125Z4	SPX0125Z4	SPX0125Z4	SPX0125Z4
17	Mounting Foot (includes screws - item #18)	1	SPX2600GV	SPX2600G1	SPX2600G1	SPX2600G1	SPX2600G1
18	Mounting Foot Cap Screw	2	SPX1600J	SPX1600J	SPX1600J	SPX1600J	SPX1600J
19	Slinger	1	SPX0125F	SPX0125F	SPX0125F	SPX0125F	SPX0125F
20	Motor (includes slinger - item #19)	1	SPX2607Z1MTG	SPX1600Z1M	SPX1605Z1M	SPX1607Z1M	SPX1607Z2MSC

NOTE: SPX2600CAP1 is the replacement capacitor set for SP2670007X10 built with the SP2607Z1MTG motor. SPX2600CAP3 is the replacement capacitor for SP2670007X10 built with the SP26110Z1MTG motor."



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## 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.
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 PTFE tape.
5. Plugged, restricted, or damaged impeller.  
**Solution:** Replace including new seal assembly.

### Noisy Pump – Check For:

1. Air leak in suction piping, cavitation 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.



#### **HAYWARD® Pool Products Limited Warranty**

Hayward Pool Products, Inc., warrants the components of this product to be free from defects in materials and workmanship during the warranty period. Please visit <https://hayward.com/support/resources/warranty> for product warranty details.

The limited warranty excludes damage from freezing, negligence, improper installation, improper use or care, Acts of God or as specified in installation and operations manual. Parts that fail or become defective during the warranty period shall be repaired or replaced, at our option.

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

To obtain warranty service, please contact the place of purchase or the nearest Hayward Authorized Service Center. For assistance on your nearest Hayward Authorized Service Center, please visit us at <https://hayward.com/dealerlocator>.

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

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

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

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

**Hayward Industries, 1415 Vantage Park Dr., Suite 400, Charlotte, NC 28203**

**\*Supersedes all previous publications**

Register your product at <https://hayward.com/support/resources/warranty/product-registration>



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**ProSeries™**  
High Rate Sand Filters

**Owner's Manual**



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S244T

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## IMPORTANT SAFETY INSTRUCTIONS

**⚠** This is the safety-alert symbol. When you see this symbol on 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.

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



### READ AND FOLLOW ALL INSTRUCTIONS

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

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



**Hair Entrapment:** Hair can become entangled in suction outlet cover.



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



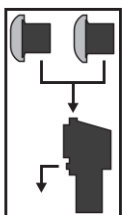
**Body Suction Entrapment:** A negative pressure applied to a large portion of the body or limbs can result in an entrapment.



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

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

**⚠ WARNING – To Reduce the risk of Entrapment Hazards:**



- When outlets are small enough to be blocked by a person, a minimum of two functioning suction outlets per pump must be installed. Suction outlets in the same plane (i.e. floor or wall), must be installed a minimum of three feet (3') [1 meter] apart, as measured from near point to near point.
- Dual suction fittings shall be placed in such locations and distances to avoid “dual blockage” by a user.



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- 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 listed flow rating.
- 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.
- Install suction outlets in accordance with latest ASME, APSP Standards and CPSC guidelines. Follow all applicable National, State, and Local codes.
- Installation of a vacuum release or vent system, which relieves entrapping suction, is recommended.

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

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

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

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

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

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

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



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





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valve position while system pump is running. Before starting system pump, fully open filter manual air relief valve. Do not close filter manual air relief valve until a steady stream of water (not air or air and water) is discharged.



**⚠ WARNING – Separation Hazard.** Failure to follow safety and operation instructions could result in violent separation of pump and/or filter components. Strainer cover must be properly secured to pump housing with strainer cover lock ring. Before servicing pool and spa circulation system, filters manual air relief valve must be in open position. Do not operate pool and spa circulation system if a system component is not assembled properly, damaged, or missing. Do not operate pool and spa circulation system unless filter manual air relief valve body is in locked position in filter upper body. **Never operate or test the circulation system at more than 50 PSI. Do not purge the system with compressed air.** Purging the system with compressed air can cause components to explode, with risk of sever injury or death to anyone nearby. Use only a low pressure (below 5 PSI), high volume blower when air purging the pump, filter, or piping.



**⚠ WARNING – Risk of Electric Shock.** All electrical wiring MUST be in conformance with applicable local codes, regulations, and the National Electric Code (NEC). Hazardous voltage can shock, burn, and cause death or serious property damage. To reduce the risk of electric shock, do NOT use an extension cord to connect unit to electric supply. Provide a properly located electrical receptacle. Before working on any electrical equipment, turn off power supply to the equipment. To reduce the risk of electric shock replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers and other equipment. Do NOT ground to a gas supply line.



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



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

**Notes to electrician:** Use a solid copper conductor, size 8 or larger. Run a continuous wire from external bonding lug to reinforcing rod or mesh. Connect a No. 8 AWG [8.4 mm<sup>2</sup>] (No. 6 AWG [13.3 mm<sup>2</sup>] for Canada) solid copper bonding wire to the pressure wire connector provided on the electrical equipment and to all metal parts of swimming pool, spa, or hot tub, and metal piping (except gas piping), and conduit within 5 ft. [1.5 m] of inside walls of swimming pool, spa, or hot tub. **IMPORTANT** - Reference NEC codes for all wiring standards including, but not limited to, grounding, bonding and other general wiring procedures.



**⚠ WARNING – Risk of Electric Shock.** The electrical equipment must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test





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the GFCI, push the test button. The GFCI should interrupt power. Push reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the electrical equipment without the test button being pushed, a ground current is flowing, indicating the possibility of an electrical shock. Do not use this electrical equipment. Disconnect the electrical equipment and have the problem corrected by a qualified service representative before using.

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

**⚠ WARNING – Risk of Hyperthermia.** To avoid hyperthermia the following “Safety Rules for Hot Tubs” are recommended by the U.S. Consumer Product Safety Commission.

1. Spa or hot tub water temperatures should never exceed 104°F [40°C]. A temperature of 100°F [38°C] is considered safe for a healthy adult. Special caution is suggested for young children. Prolonged immersion in hot water can induce hyperthermia.
2. Drinking of alcoholic beverages before or during spa or hot tub use can cause drowsiness, which could lead to unconsciousness and subsequently result in drowning.
3. Pregnant women beware! Soaking in water above 100°F [38°C] can cause fetal damage during the first three months of pregnancy (resulting in the birth of a brain-damaged or deformed child). Pregnant women should adhere to the 100°F [38°C] maximum rule.
4. Before entering the spa or hot tub, users should check the water temperature with an accurate thermometer; spa or hot tub thermostats may err in regulating water temperatures by as much as 4°F [2.2°C].
5. Persons taking medications, which induce drowsiness, such as tranquilizers, antihistamines or anticoagulants, should not use spas or hot tubs.
6. If the pool/spa is used for therapy, it should be done with the advice of a physician. Always stir pool/ spa water before entering to mix in any hot surface layer of water that might exceed healthful temperature limits and cause injury. Do not tamper with controls, because scalding can result if safety controls are not in proper working order.
7. Persons with a medical history of heart disease, circulatory problems, diabetes or blood pressure problems should obtain a physician’s advice before using spas or hot tubs.
8. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above normal body temperature of 98.6°F [37°C]. The symptoms of Hyperthermia include: drowsiness, lethargy, dizziness, fainting, and an increase in the internal temperature of the body.

**The effects of Hyperthermia include:**

1. Unawareness of impending danger.
2. Failure to perceive heat.
3. Failure to recognize the need to leave the spa.
4. Physical inability to exit the spa.
5. Fetal damage in pregnant women.
6. Unconsciousness resulting in danger of drowning.



## Introduction

Your Hayward Pro Series™ high-rate sand filter is a high performance, totally corrosion-proof filter that blends superior flow characteristics and features with ease of operation. It represents the very latest in high-rate sand filter technology. It is virtually foolproof in design and operation and when installed, operated and maintained according to instructions, your filter will produce clear, sparkling water with only minimal attention and care.

### How It Works

Your filter uses special filter sand to remove dirt particles from pool water. Filter sand is loaded into the filter tank and functions as the dirt removing media. The pool water, which contains suspended dirt particles, is pumped through your piping system and is automatically directed by the filter control valve to the top of the filter tank. As the pool water is pumped through the filter sand, dirt particles are trapped by the sand bed, and filtered out. The cleaned pool water is returned from the bottom of the filter tank, through the control valve and back to the pool through the piping system. This entire sequence is continuous and automatic and provides recirculation of pool water through your filter and piping system.

After a period of time, the accumulated dirt in the filter causes a resistance to flow, and the flow diminishes. This means it is time to clean (backwash) your filter. With the control valve in the backwash position, the water flow is automatically reversed through the filter so that it is directed to the bottom of the tank, up through the sand, flushing the previously trapped dirt and debris out the waste line. Once the filter is backwashed (cleaned) of dirt, the control valve is manually re-sequenced to Rinse, and then Filter, to resume normal filtering.

## Installation

Only simple tools (screwdriver and wrenches), plus pipe sealant for plastic adapters, are required to install and/or service the filter.

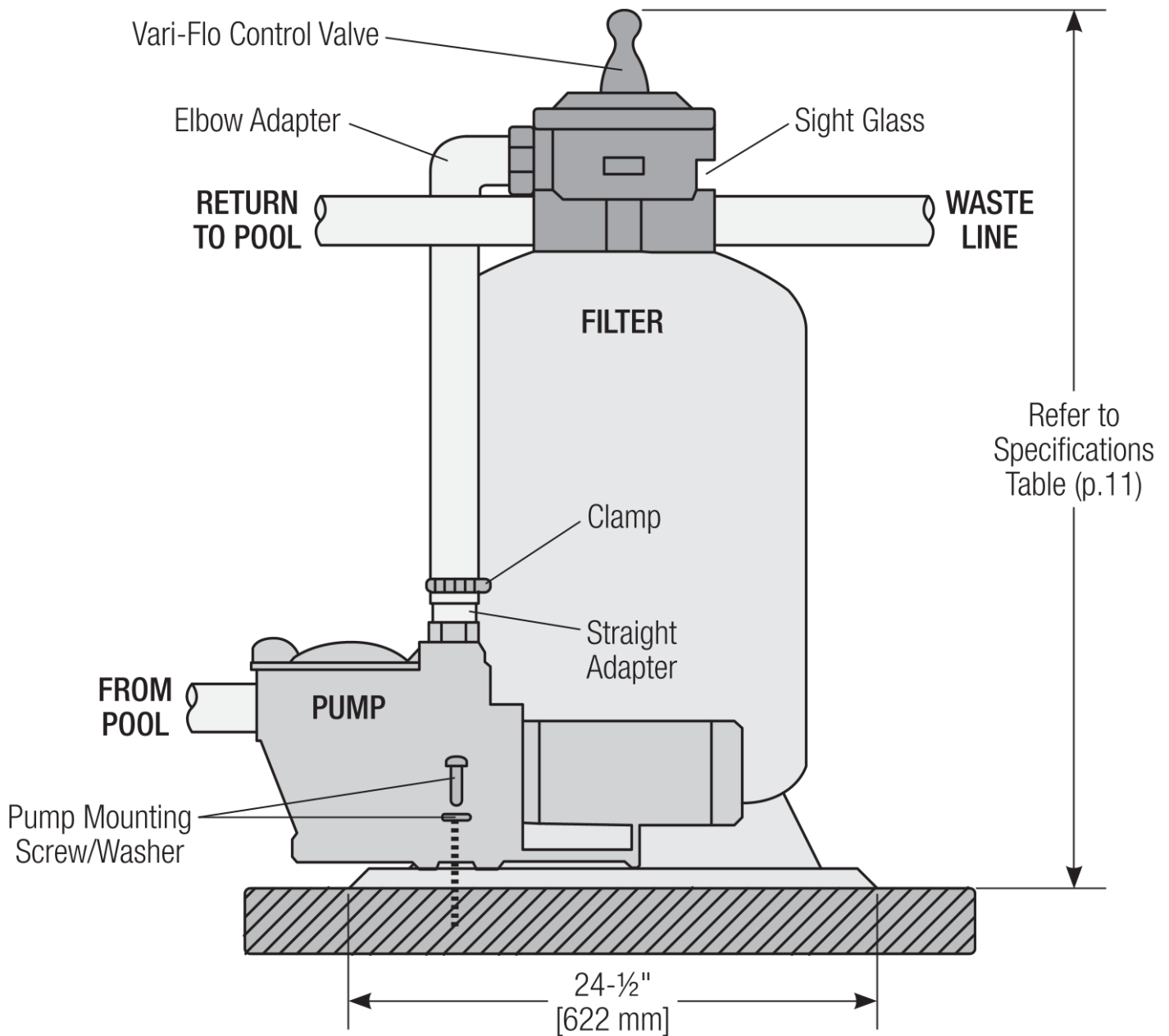
### Installation Steps

1. The filter system should be installed, not more than 6 feet above pool water level, on a level concrete slab, very firm ground, or equivalent, as recommended by your pool dealer. Position the filter so that the piping connections, control valve and winter drain is accessible for operation, service and winterizing.
2. Assemble pump mounting base, (if supplied) to the filter according to instructions packed with the base.

Refer to the image of the following page for typical installation.



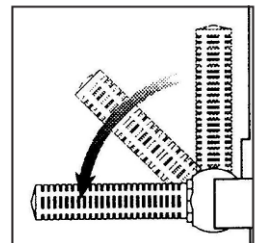
# HAYWARD®



3. Loading sand media. Filter sand media is loaded through the top opening of the filter.
  - a. Loosen flange clamp and remove Filter Control Valve (if previously installed). Cap internal pipe with sand shield to prevent sand from entering it. Be sure pipe is securely in place in bottom underdrain hub.
  - b. We recommend filling tank approximately 1/2 way with water to provide a cushioning effect when the filter sand is poured in. This helps protect the underdrain laterals from excessive shock. (Be sure the winter drain cap is securely in place on drain pipe).

**NOTICE** - Check to confirm all laterals are in the down position before loading with sand as shown to the right.

- c. Carefully pour in correct amount and grade of filter sand, as specified in the Specifications table on page 11. (Be sure center pipe remains centered in opening). Because filter sand is not all the same. THE LEVEL OF SAND MUST REMAIN A MINIMUM OF 10" FROM THE TOP. Remove sand shield from internal pipe.







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4. Assemble Filter Control Valve to filter tank.
  - a. Loosely pre-assemble both halves of the clamp with one screw and one nut, turning the nut 2 or 3 turns. Do not tighten. Wipe filter flange clean.
  - b. Insert Filter Control Valve (with valve/flange O-ring in place) into the tank neck, taking care that the center pipe slips into the hole in the bottom of the valve. Install clamp around tank and valve flange and assemble second screw and nut. Tighten just enough so that the valve may be rotated on tank for final positioning.
  - c. Wrap two turns of Teflon pipe sealant tape manufactured for plastic pipe on the 1/4" NPT male end of gauge. Carefully screw pressure gauge, into 1/4"NPT tapped hole in valve body. Do not over tighten.
  - d. Connect pump to control valve opening marked PUMP according to instructions. After connections are made, tighten valve flange clamp with screwdriver, tapping around clamp with screwdriver handle to help seat valve flange clamp.
5. Make return to pool pipe connection to control valve opening marked RETURN and complete other necessary plumbing connections, suction lines to pump, waste, etc.
6. Make electrical connections to pump per pump instructions.
7. To prevent water leakage, be sure winter drain cap is securely in place and all pipe connections are tight.

## Initial Start-Up of Filter

1. Be sure correct amount of filter sand media is in tank and that all connections have been made and are secure.
2. Depress Vari-Flo control valve handle and rotate to BACKWASH position. (To prevent damage to control valve seal, always depress handle before turning.) **For new concrete or gunite pools, or where there is a large amount of plaster dust or debris—start filter in FILTER position (not BACKWASH) to prevent clogging of under drain laterals.**
3. Prime and start pump according to pump instructions (be sure all suction and return lines are open), allowing the filter tank to fill with water.



**⚠ WARNING – Separation Hazard.** All suction and discharge valves must be open when starting the system. Failure to do so could cause severe personal injury.

Once water flow is steady out the waste line, run the pump for at least 2 minutes. The initial back-washing of the filter is recommended to remove any impurities or fine sand particles in the sand media.

4. Turn pump off and set valve to RINSE position. Start pump and operate until water in sight glass is clear—about 1/2 to 1 minute. Turn pump off, set valve to FILTER position and restart pump. Your filter is now operating in the normal filter mode, filtering particles from the pool water.
5. Adjust pool suction and return valves to achieve desired flow. Check system and filter for water leaks and tighten connections, bolts, nuts, as required.





6. Note the initial pressure gauge reading when the filter is clean. (It will vary from pool to pool depending upon the pump and general piping system). As the filter removes dirt and impurities from the pool water, the accumulation in the filter will cause the pressure to rise and flow to diminish. When the pressure gauge reading is 8-10 PSI (0.55-0.69 BAR) higher than the initial "clean" pressure you noted, it is time to backwash (clean) the filter (see BACKWASH under Filter Control Valve Functions.)

**NOTICE** - During initial clean-up of the pool water it may be necessary to backwash frequently due to the unusually heavy initial dirt load in the water.

**IMPORTANT:** To prevent unnecessary strain on piping system and valves, always shut off pump before switching Filter Control Valve positions.

**NOTICE** - To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer and skimmer baskets regularly.

# Operation

## Filter Control Valve Functions

- FILTER:** Set valve to FILTER for normal filtering. Also use for regular vacuuming.
- BACKWASH:** For cleaning filter. When filter pressure gauge rises 8-10 PSI (0.55-0.69 BAR) above start-up (clean pressure):
- Stop the pump, set valve to BACKWASH. Start pump and backwash until water in sight glass is clear. Approximately 2 minutes or less depending on dirt accumulation. Proceed to RINSE.
- RINSE:** After backwashing, with pump off, set valve to RINSE. Start pump and operate for about 1/2 to 1 minute. This ensures that all dirty water from backwashing is rinsed out of the filter to waste, preventing possible return to the pool. Stop pump, set valve to FILTER, and start pump for normal filtering.
- WASTE:** To bypass filter for draining or lowering water level and for vacuuming heavy debris directly to waste. RECIRCULATE—Water is recirculated through the pool system, bypassing the filter.
- CLOSED:** Shuts off flow from pump to filter. VACUUMING—Vacuuming can be performed directly into the filter. When vacuuming heavy debris loads, set valve to WASTE position to bypass the filter and vacuum directly out to waste.

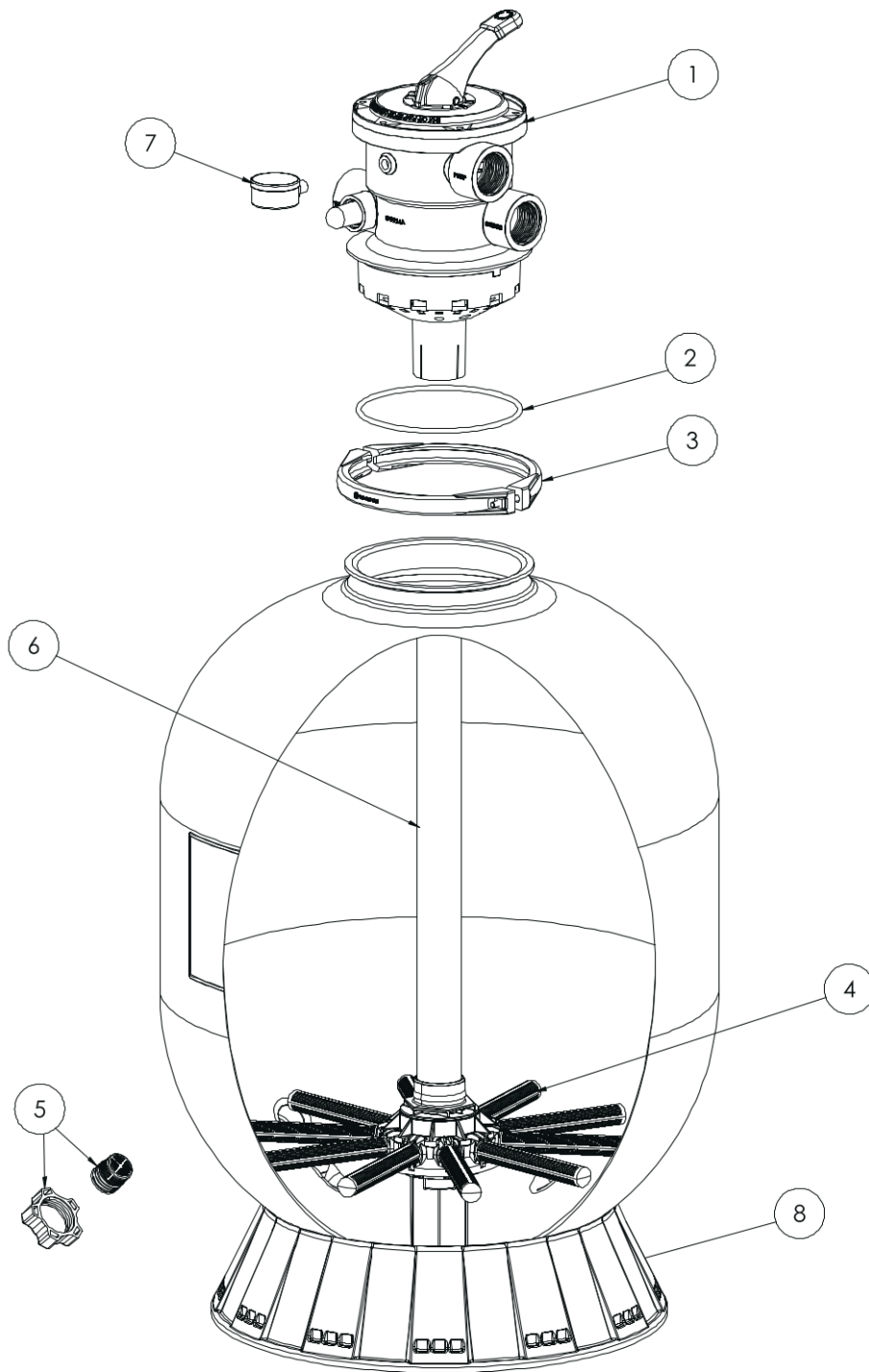


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## Winterization

1. Completely drain tank by unscrewing drain cap at base of filter tank. Leave cap off during winter.
2. Depress Vari-Flo control valve handle and rotate so as to set pointer on valve top between any two positions. This will allow water to drain from the valve. Leave valve in this "inactive" position.
3. Drain and winterize pump according to pump instructions.

## Replacement Parts



Ref No	Part No	Description	Qty
1a	SP0714T	1.5" VariFlo XL Control Valve	1
1b	SP071620T	2" VariFlo XL Control Valve	1
2	GMX600F	Valve/Tank Oring	1
3a	GMX600NM	Flange Clamp (Plastic)	1
3b	SX310N	Flange Clamp (Stainless Steel)	1
4a	SX200QNRPAK10	16", 18", 21", 22" Lateral ribbed (10)	1
4b	SX240DNRPAK10	24", 27" lateral ribbed end (10)	1
4c	SX310HNRPAK10	30", 36" lateral ribbed end (10)	1
5a	SX180HG	Drain Cap Kit (Round)	1
5b	SX180LA	Drain Cap Assy	1
6a	SX164DAS	Folding Lateral Assembly 16" with standpipe	1
6b	SX180DAS	Folding Lateral Assembly 18" with standpipe	1
6c	SX210DAS	Folding Lateral Assembly 21" with standpipe	1
6d	SX210DA2S	Folding lateral assembly 21" T2 with 2" standpipe	1
6e	SX220DAS	Folding Lateral Assembly 22" with standpipe	1
6f	SX220DA2S	Folding lateral assembly 22" T2 with 2" standpipe	1
6g	SX244DAS	Folding Lateral Assembly 24", with standpipe	1
6h	SX244DA2XS	Folding Lateral Assembly 24" T2 with 2" standpipe	1
6j	SX270DA2S	Folding lateral Assembly 27" with standpipe	1
6k	SX270DA2XS	Folding Lateral Assembly 27" T2 with 2" standpipe	1
6m	SX310DA2S	Folding Lateral Assembly 31" with standpipe	1
6n	SX360DAS	Folding Lateral Assembly 36" with standpipe	1
7	ECX270861	Pressure Gauge	1
8a	SX164B	14" and 16" Filter Base	1
8b	SX200J	18"-27" Filter Base	1
8c	SX310J	30"&36" Filter Base	1
9a	SX164C	14" and 16" Pump Base	1
9b	SX180J	System base 18", 21", 23"	1
10	ECX1108A	Pump mounting screw kit	1
11a	SX160Z4KIT	26" Hose Kit (14", 16" system)	1
11b	SX201Z1KIT	33" Hose Kit (18", 21", 23" System)	1



# Maintenance

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

## Performance

Pure, clear swimming pool water is a combination of two factors—adequate filtration and proper water chemistry balance. One without the other will not give the clean water you desire.

Your filter system is designed for continuous operation. However, this is not necessary for most swimming pools. You can determine your filter operation schedule based on your pool size and usage. Be sure to operate your filtration system long enough each day to obtain at least one complete turnover of your pool water.

To properly sanitize your pool, maintain a free chlorine level of 1 to 3 ppm and a pH range of 7.2 to 7.6. Insufficient chlorine or an out of balance pH level will permit algae and bacteria to grow in your pool and make it difficult for your filter to properly clean the pool water.

Specifications													
Model No.	Effective Filtration Area		Maximum Working Pressure		Required Clearance				Media Capacity			Installed Height	
					Side		Above		Type	Amount			
	ft²	m²	PSI	BAR	in.	mm	in.	mm	Filter Sand*	lbs	kg	in.	mm
S144T	1.1	.10	50	3.45	18	460	18	460	0.45 - 0.55 mm	50	22	32	815
S166T	1.4	.13	50	3.45	18	460	18	460	0.45 - 0.55 mm	100	45	33	840
S180T	1.8	.17	50	3.45	18	460	18	460	0.45 - 0.55 mm	150	68	35	890
S210T	2.2	.20	50	3.45	18	460	18	460	0.45 - 0.55 mm	200	90	38	965
S210T2	2.2	.20	50	3.45	18	460	18	460	0.45 - 0.55 mm	200	90	38	965
S220T	2.6	.25	50	3.45	18	460	18	460	0.45 - 0.55 mm	250	115	41	1040
S220T2	2.6	.25	50	3.45	18	460	18	460	0.45 - 0.55 mm	250	115	41	1040
S244T	3.1	.29	50	3.45	18	460	18	460	0.45 - 0.55 mm	300	135	42	1070
S244T2	3.1	.29	50	3.45	18	460	18	460	0.45 - 0.55 mm	300	135	42	1070
S270T	3.7	.34	50	3.45	18	460	18	460	0.45 - 0.55 mm	350	160	43	1090
S270T2	3.7	.34	50	3.45	18	460	18	460	0.45 - 0.55 mm	350	160	43	1090
S310T2	4.9	.46	50	3.45	18	460	18	460	0.45 - 0.55 mm	500	225	48	1220
S360T2	7.1	.66	50	3.45	18	460	18	460	0.45 - 0.55 mm	700	315	53	1350

\*Also known as No. 20 Silica Pool

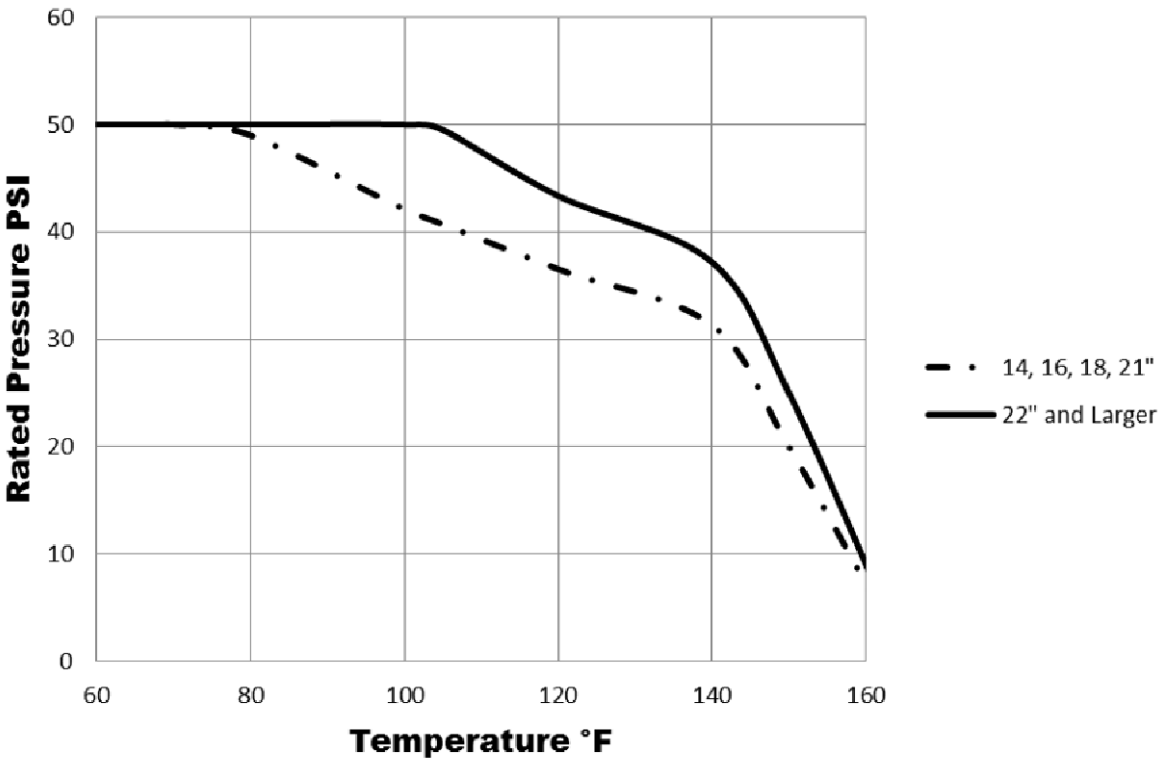




Maximum Recommended System Flow Rate By Pipe Size					
Pipe Size in. [mm]	Flow Rate GPM [LPM]	Pipe Size in. [mm]	Flow Rate GPM [LPM]	Pipe Size in. [mm]	Flow Rate GPM [LPM]
1 [32]	20 [75]	1-½ [50]	45 [170]	2-½ [75]	110 [415]
1-¼ [40]	30 [110]	2 [63]	80 [300]	3 [90]	160 [600]

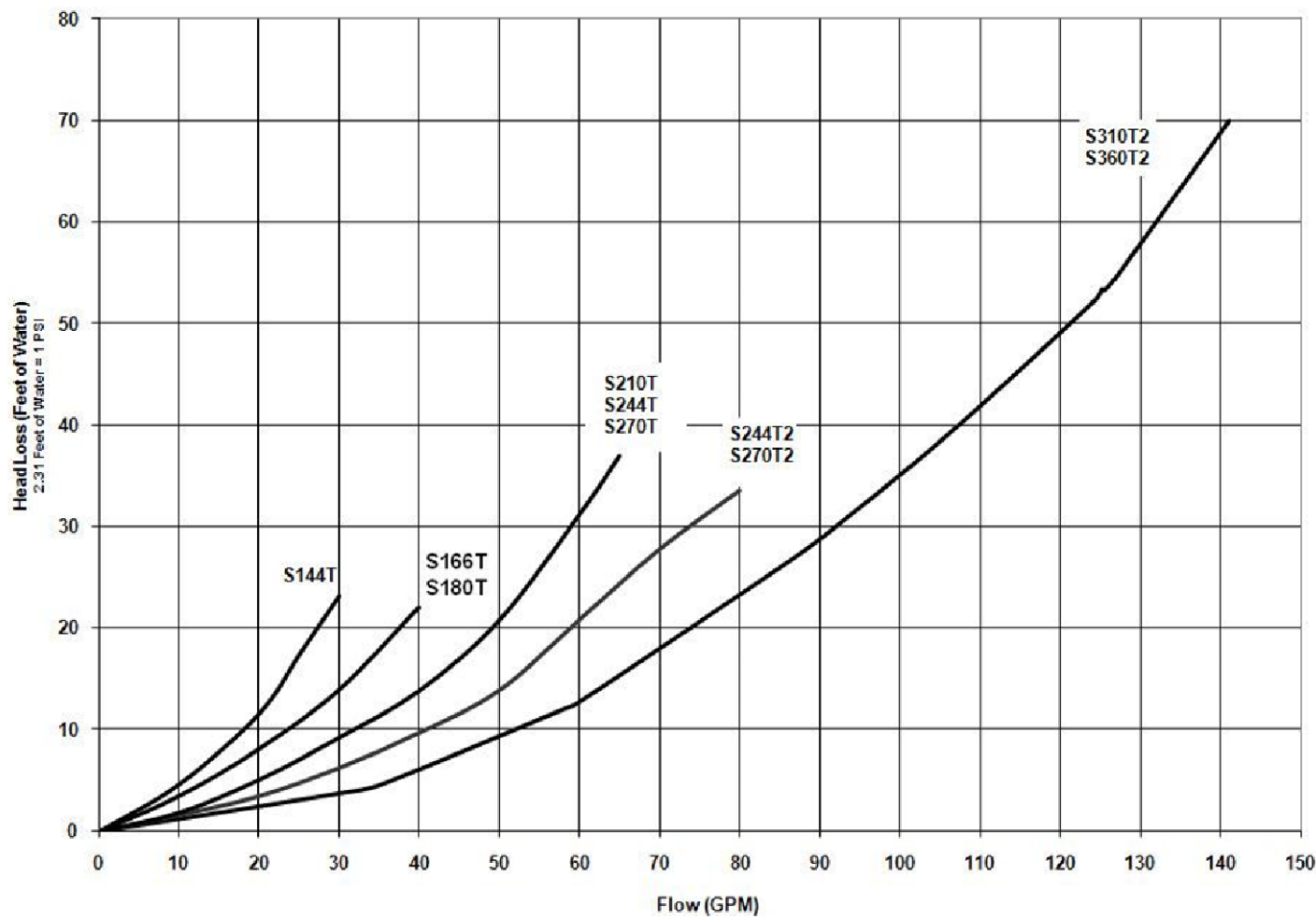
Suggested Pool Chemistry	
pH	7.2 to 7.6
Total Alkalinity	80 to 120 ppm
Calcium Hardness	200 to 400 ppm
Combined Chlorine	0.2 ppm Maximum
Chlorine (Stabilized)	1.0 to 3.0 ppm
Stabilizer (Cyanuric Acid)	60 to 80 ppm

**Sand Filter Working Pressure**





**HEAD LOSS CURVES**



**Troubleshooting**

Problem Solving List			
Problem	Low Water Flow	Short Filter Cycles	Pool Water Won't Clear Up
Remedy	<ul style="list-style-type: none"><li>• Check skimmer and pump strainer baskets for debris.</li><li>• Check for restrictions in intake and discharge lines.</li><li>• Check for air leak in intake line (indicated by bubbles returning to pool).</li><li>• Backwash filter.</li></ul>	<ul style="list-style-type: none"><li>• Check for algae in pool and superchlorinate as required.</li><li>• Be sure chlorine and pH levels are in proper range (adjust as required).</li><li>• Check surface of filter sand for crusting or caking (remove 1 " of sand if necessary).</li></ul>	<ul style="list-style-type: none"><li>• Check chlorine, pH and total alkalinity levels and adjust as required.</li><li>• Be sure flow rate through filter is sufficient.</li><li>• Operate filter for longer periods.</li><li>• Be sure Vari-Flo valve is set on "Filter" position.</li></ul>



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Hayward Pool Products, Inc., warrants the components of this product to be free from defects in materials and workmanship during the warranty period. Please visit <https://hayward.com/support/resources/warranty> for product warranty details.

The limited warranty excludes damage from freezing, negligence, improper installation, improper use or care, Acts of God or as specified in installation and operations manual. Parts that fail or become defective during the warranty period shall be repaired or replaced, at our option.

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

To obtain warranty service, please contact the place of purchase or the nearest Hayward Authorized Service Center. For assistance on your nearest Hayward Authorized Service Center, please visit us at <https://hayward.com/dealerlocator>.

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

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

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

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

**Hayward Industries, 1415 Vantage Park Dr., Suite 400, Charlotte, NC 28203**

**\*Supersedes all previous publications**

Register your product at <https://hayward.com/support/resources/warranty/product-registration>

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