

Super II™ Variable Speed Pump

SELF-PRIMING SWIMMING POOL PUMP

INSTALLATION AND OPERATING INSTRUCTION MANUAL

Your Hayward variable speed self-priming centrifugal pump has been quality-built and engineered to give you many years of efficient, dependable, corrosion free service.

The advanced design reduces operation and maintenance to simple, common-sense procedures.

IMPORTANT

*This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure they can use the appliance safely.

*Young children should be supervised to ensure that they do not play with the appliance.

GENERAL TIPS ON PUMP INSTALLATION

Locate the pump as close to pool as practical and run suction line as direct as possible. Secure pump to base with screws or bolts to reduce vibration and pipe stress.

Never overtighten pipe connections—use only pipe sealants formulated specifically for plastics, i.e., Teflon tape, Permatex No. 2, etc.

Suction line should have continuous slope from lowest point in line. Make sure suction joints are tight. Suction pipe should be as large or larger than discharge pipe.

Damp, non-ventilated locations should be avoided. Motors require free circulation of air to aid in cooling.

Ensure that the electrical supply available agrees with motor's voltage and is 50 HZ, and that wire size is adequate for the KW rating and distance from power source. Motor must always be properly earthed. Electrical circuits must be supplied through a Residual Current Device - RCD (safety switch), with a rated residual operating current of 30mA. All electrical wiring must be performed by qualified electrical contractor, and must conform to electrical regulations and AS3000 wiring rules.

STARTING AND PRIMING INSTRUCTIONS

Fill strainer/housing with water to suction pipe level. Never operate the pump without water. Water acts as a coolant and lubricant for the mechanical shaft seal.

Open all suction and discharge lines and valves, as well as air bleed (if available) on filter. (The air that is to be displaced from the suction line must have some place to go.)

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

Turn on power and allow a reasonable time for priming. Five minutes is not unreasonable. (Priming time depends on suction lift and horizontal length of suction piping.) If the pump will not start, or will not prime, see TROUBLE SHOOTING GUIDE on back page.

Notice for Solar Applications

A check valve must be fitted to the discharge of the pump when installed with solar system.

Special Notice for 415V. 3 Phase Models

Only a qualified electrician may connect or disconnect this pump to/from a power supply.

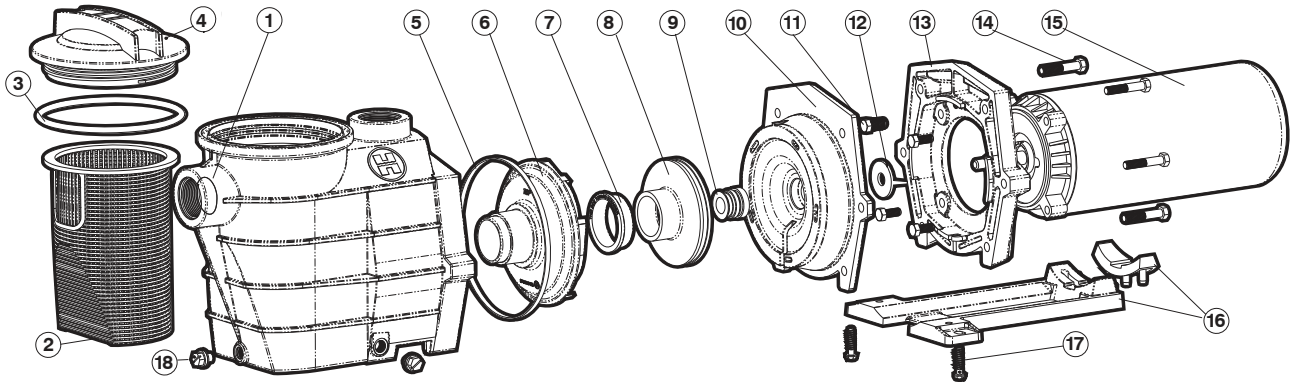
The motor must be connected by means of fixed wiring so that the IP rating is maintained when doing so. Electrician must check direction of rotation at time of installation.

The motor is not suitable for flex and plug connection as starter/contactors with overload is required and this must be set according to the rated current.



Super II Variable Speed Pump Replacement Parts

Parts Diagram



Parts Listing

Ref. No.	Part No.	Description	Qty. Req'd
1	SPX3020AUH	Pump Housing/Strainer - 50mm, w/Drain Plugs, threaded style	1
2	SPX3000M	Basket	1
3	SPX3000S	Strainer Cover O-Ring	1
4	SPX3000D	Strainer Cover, Hand-Knob Style, Clear	1
5	SPX3000T	Housing Gasket	1
6	SPX3000BN	Diffuser	1
--	SPX1600R	Diffuser Gasket - Not Shown	1
7	SPX3005R	Impeller Ring	1
8	SPX3010C	Impeller	1
9	SPX1600Z2	Seal Assembly	1
10	SPX3020E	Seal Plate	1
11	SPX0125Z4B	Motor Cap Screw	4
12	SPX0125F	Slinger	1
13	SPX3000F	Motor Mounting Plate	1
14	SPX1600Z4	Housing Cap Screw	6
--	SPX3000Z26	Washer, 3/8" for Housing Cap Screw - Not Shown	6
15	SPX3010ADEM	Motor	1
16	SPX3000GA	Mounting Bracket with Adaptor and 2 Cap Screws	1
17	SPX1600Z54	Mounting Foot Cap Screws (Set of 2)	1
18	SPX1700FG	1/4" Drain Plug with Gasket	2
--	SPX1600PN	Hand Knob Kit for Strainer Cover (Includes Hand Knob and Swivel Nut)	2
--	RSJ750JKM	Union Kit (2) 40mm - 50mm - Super II pump - Not Shown	1
--	RS750N	Union Gasket (T-Seal)	2



Super II Variable Speed Pump

Filter (LOW Speed) - This speed will meet the daily requirements for most private use pools up to 50,000 litres depending on the speed it is adjusted too, and will turnover the entire pool volume in an average 8 to 10 hours of operation. The factory default setting of this speed is used to obtain the seven star energy rating and is the recommended minimum speed for filtration.

Boost (MED Speed) - This speed can be adjusted to meet the specific flow requirements of Automatic Pool Cleaners, or to increase the flow for the operation of pool accessories or at times of heavy bather load.

Turbo (HIGH Speed) - Use this speed for backwashing and operation of accessories that may require extra flow for specific functions, such as Spa Jets and Water Features.

Benefits of operating at low speeds

- Save electricity and money. A reduction in Pump Speed of 50% will reduce power consumption by up to 75%
- Better filtration - the filter can often remove smaller particles when the water moves slower
- Quiet operation, so therefore it is very unlikely to be intrusive to your neighbours
- Reduced Total Dynamic Head - less stress on equipment (e.g. filter) which can extend equipment life

When determining the speed(s) to operate your pump, you must also take into account the minimum requirements for proper sanitation and equipment/water feature functionality.

It is recommended you filter ("turnover") all the water in the pool at least once every 24 hours. Check with local requirements for the minimum turnover rate. Running the pump at lower speed may require running the pump for a longer period of time in order to meet the turnover requirements for proper sanitation.

Equipment such as heaters, skimmers, and chlorinators require minimum flows to operate correctly. Refer to the individual equipment manuals for specific requirements for low flow operation.

After setting the pump speed(s), it is recommended you check all other equipment/water features are functioning as intended. For example, when running at low speed for daily filtration, verify that the water is adequately flowing over the skimmer weirs. Operate the pump at higher speeds for the shorter periods of time needed to operate a heater, water feature, times of increased bather load, ect.

Motor Operation:

1. Power Up

- Via supply cord
- Power LED on / Error LED one or two flashes
- Ramp up (after 5 second delay)

2. Priming Cycle

- Starts on HIGH speed
- Cycle runs for 2 minutes

3. Normal Operation

- Resumes previously selected speed prior to shut down
- LED solidly lit indicating currently selected speed

4. Speed Selection

- Via touch pad on motor interface. One second delay after switching
- Ramp up or down will take 2 - 5 seconds depending on the speed
- LED solidly lit on the newly selected speed

5. Shut Down

- Via power out let that the supply cord is connected to
- Via the STOP button on the motor interface touch pad

6. Fault Mode

- Motor will not start
- Error LED flashes a sequence followed by a pause
- Sequence is repeated (record number of flashes in the sequence and contact your service agent)

7. Over Temperature Mode

- The pump speed is reduced until a steady state temperature is maintained within the maximum limit

8. Overload Protection Mode

- Speed is reduced until steady state full load current is maintained within the maximum limit

USE ONLY HAYWARD GENUINE REPLACEMENT PARTS

Super II Variable Speed Pump

MOTOR INTERFACE USER GUIDE

Normal Operation Mode:

Press Button:



- For Low Speed
(LED will remain solidly lit when selected)



- For Medium Speed
(LED will remain solidly lit when selected)



- For High Speed
(LED will remain solidly lit when selected)






- Stop Button
(Power LED will flash when the pump is in standby mode)



Adjusting The Set Point Of Each Speed:



Press and hold  ,  , or  for approximately three (3) seconds or until the LED of the selected speed begins to flash. Once flashing the selected speed has entered into the Adjustable Set Point Mode. To reset the speeds to the factory default settings hold down all three (3) buttons until all three LED's are solidly lit.

Press Button:



- To decrease speed by 100rpm increments with 1000rpm as the minimum limit for LOW, MED, and HIGH.



- To save the current speed setting and return to Normal Operation Mode hold the button down for 5 seconds.



- To increase speed by 100rpm increments with 2850rpm as the maximum limit for LOW, MED, and HIGH.



- Will cancel the change and revert back to the original speed and return to Normal Operation Mode.

Note:

- If power is removed , motor will return to the last speed that was selected when power is restored.
- If power is removed then restored the motor will remember what it's on/off state was.
- If there is a fault, the fault LED will blink a sequence code. Count the blinks and contact service agent.



Shaft Seal Change Instructions

IMPORTANT SAFETY INSTRUCTIONS **PLEASE READ AND FOLLOW ALL INSTRUCTIONS**

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

- Disconnect the pump motor power cord from the power outlet before beginning the shaft seal replacement.
- Only qualified personnel should attempt to replace the shaft seal. Contact your local authorized Hayward Dealer or service center if you have any questions.
- Exercise extreme care in handling both the rotating and stationary sections of the two-part replacement seal. Foreign matter or improper handling will easily scratch the graphite and ceramic sealing surfaces.
- See the "Parts Diagram" on the previous page for the pump component locations.

Removing the Motor Assembly

1. Remove the six (6) 3/8" x 2" hex head bolts (Item 14), which hold the motor assembly to the pump/strainer housing (Item 1), using a 9/16" AF spanner or socket.
2. Slide the motor assembly out of the pump/strainer housing (item 1), exposing the diffuser (item 6). Pull the diffuser off of the seal plate (Item 10), 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

1. To prevent the motor shaft from turning, insert a Flat Blade Screwdriver through the center hole in the fan cowling and into the slot on the end of the motor shaft and hold it.
2. Remove the impeller (item 8) by rotating it counterclockwise. The spring portion of the seal assembly is now exposed. Note carefully the position of the spring seal, and remove it. Also remove the impeller ring (Item 7) from the impeller and note the way it was installed.

Removing the Ceramic Seat

1. Remove the seal plate (Item 10) from the motor mounting plate (Item 13)
2. Press the ceramic seat with rubber cup out of the seal plate (item 10). If tight, use a small screwdriver to tap the seal out from the back side of the seal plate.

! IMPORTANT - Clean all recesses and parts to be reassembled. Inspect gaskets and replace if necessary.

Seal, Impeller, and Diffuser Installation

1. Clean and lightly lubricate the motor shaft and seal recess in the seal plate (item 10) with a dilute solution of non granulated liquid type soap. Gently wipe the polished face of the ceramic seal with a soft, lint free cotton cloth. Lubricate the rubber cup on the ceramic seat and press it firmly into the recess of the seal plate (item 10), with the polished ceramic surface facing towards you. Ensure the motor shaft slinger (item 12) is slid all the way down the shaft.
2. Place the seal plate (Item 10) onto the motor mounting plate (Item 13), align the tabs on the seal plate with the grooves on the motor mounting plate. The outside profile of the two parts should be the same.
3. Gently wipe the black, polished surface of the carbon spring seal assembly (item 9) with a soft, lint free cotton cloth.
4. Clean and lubricate the impeller hub (Item 8) and press the carbon spring seal assembly (item 9) onto the impeller hub with the black polished surface facing away from the impeller.
5. Screw the impeller (item 8) onto the motor shaft in a clockwise direction and tighten snugly by holding the motor shaft with the Flat Blade Screwdriver as explained earlier. Place the impeller ring (item 7) back onto the impeller (item 8), with its flange facing towards the diffuser (item 6).
6. Place the diffuser (item 6) over the impeller (item 8) and onto the seal plate (item 10), aligning the word "TOP" and the arrow to the top of the motor or, the top ridge of the seal plate. Give it a tap with the heel of your hand to make it seat into position on the seal plate. Ensure the diffuser gasket is fitted to the diffuser to the outside of the diffuser inlet.
7. Replace the motor Assembly into the pump/strainer housing in the reverse order of the removal steps. Ensure the housing gasket (item 5) is lubricated and tighten the housing bolts (item 14) in a cross pattern and evenly.

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MAXIMUM TOTAL HEAD - IMPORTANT INSTALLATION INFORMATION

Model	Max Total Metres Head	Max Pressure kPa
SP3010ADE / S2P263-E	16.5	161

MAINTENANCE

1. Clean strainer basket regularly. Do not strike basket to clean.
2. Inspect strainer cover O-ring regularly and replace as necessary. Keep cover O-ring lubricated.
3. Hayward pumps have self-lubricating motor bearings and shaft seals. No lubrication is necessary.
4. Keep motor clean. Insure air vents are free from obstruction.

**NB Do not use petroleum based lubricants on gaskets, O-rings or plastic components.
Use only silicone based lubricants.**

A. MOTOR WON'T START

1. Check open switches or relays, blown circuit breakers or fuses.
2. Ensure power cord is plugged in and power is switched on, (240v Models Only).
3. Refer to Authorised Service Agent or other qualified person.

B MOTOR CUTS OUT

NOTE: Your Hayward pump motor is equipped with Automatic Thermal Overload Protection. The motor will automatically shut-off, under normal conditions, before heat damage buildup, due to an improper operating condition, can occur. The motor will auto-restart when safe heat level is reached.

If motor fails to restart switch power off and contact an authorised Hayward Pump Service Technician or other qualified service company.

C. MOTOR HUMS, BUT DOES NOT START

If motor fails to start switch power off and contact an authorised Hayward Pump Service Technician or other qualified service company.

D. PUMP WON'T PRIME

1. Make sure pump/strainer is filled with water, and that cover gasket is clean and properly seated. Tighten hand nuts.

2. Make sure all suction and discharge valves are open and unobstructed, and that pool water level is above all suction openings.

E. LOW FLOW—Generally, check for:

1. Clogged or restricted strainer or suction line;
2. Plugged or restricted discharge line of filter (high discharge gauge reading).
3. Air leak in suction (bubbles issuing from return fittings).

F. NOISY PUMP—Check for:

1. Air leak in suction causing rumbling in pump.
2. Cavitation due to restricted or undersized suction line and restricted discharge lines.
3. Vibration due to improper mounting, etc.
4. Foreign matter in pump housing.
5. Motor bearings made unserviceable by wear, rust, or continual overheating. Refer to authorised service agent.

G. If the Supply Cord is damaged, it must be replaced by the manufacture, its service agent or similarly qualified persons in order to avoid a hazard.

SERVICE & REPAIRS

Consult your local authorised Hayward dealer or service center. No pumps or motors may be returned directly to the factory without the expressed written authorisation of Hayward Pool Products (Australia) Pty Ltd.

Warning

The Pump Motor is an electrical device and as such should not be disassembled or serviced by anyone other than an authorised Hayward Service Technician or qualified Electrical Service Company. An experienced Pool Service Technician should attend to any other problems that cannot be corrected by routine maintenance.

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