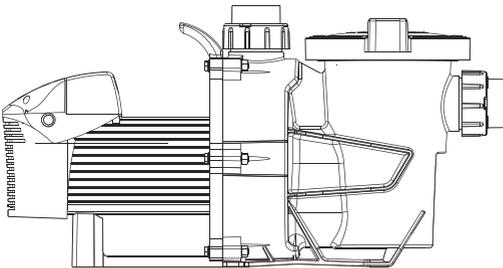


INSTALLATION & OPERATING MANUAL
Si Pool and Spa Pump

A COMPLETE GUIDE TO YOUR SWIMMING POOL PUMP



insnrg

CONGRATULATIONS ON PURCHASE YOUR INSNRG SWIMMING POOL PUMP.

THIS MANUAL HAS BEEN CAREFULLY DEVELOPED TO GIVE YOU ALL THE INFORMATION YOU NEED TO GET THE BEST VALUE FROM YOUR PURCHASE.

It is important that you read through the manual to identify the key areas you need to understand, particularly the following:

- Health and Safety Concerns
- Installation requirements
- How to operate the major features of the unit
- The importance of maintenance
- If you have a problem, what to trouble shoot before you contact your professional
- Finally, your entitlements under your product warranty.

Insnrg have developed their product to provide you with the ultimate experience and are sure you will be delighted with your purchase.

Please note: This manual has been designed to cater for installation rules and codes in the USA, Canada and Australia. Specific rules and regulations for each country has been highlighted by the National flag of each country. Please ensure you follow the installation rules specific to your country.

THE IMPORTANT BITS

04 **SECTION 1:**
We care about your safety

12 **SECTION 2:**
We want you to be delighted
Specifications and Dimensions
Pump Locations and Clearances
Installation Tips

17 **SECTION 3:**
Now to Have some Fun
Starting / Priming the Pump

19 **SECTION 4:**
Oops, something not right?
Maintenance
Winterising
Trouble Shooting
Warranty
Contact Details

SECTION 1

WE CARE ABOUT YOUR SAFETY



IMPORTANT WARNINGS

Warning – Please 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.

INSTALLERS: Insnrg highly recommend the installation of all their equipment by a suitably qualified pool professional who will ensure your high performance Insnrg products are installed to your local standards and codes to ensure optimum safety and performance.

 **WARNING**

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

 **WARNING**

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

 **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.

 **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.

CAUTION

All components of the filtration system including Pumps, Filters, Heaters must be positioned so to prevent being used as means of access to the pool by young children. To reduce risk of injury, do not permit children to use or climb on this product. Closely supervise children at all times.

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 systems, all system and pump controls must be in the off position and filter manual relief valve must be in open position. Before starting system pump, all system valves must be set in a position that allows system water to return back to the pool. Do not change filter control valve position whilst system pump is operating. 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) is discharged.

WARNING

This pump is to be supplied by an isolating transformer or supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA.

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.

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

Electrical ground all electrical equipment before connecting to electrical power supply. Failure to ground all electrical equipment can cause serious or fatal electrical shock hazard.

WARNING

Do NOT ground to a gas supply line.

WARNING

To avoid dangerous or fatal electrical shock, turn OFF power to all electrical equipment before working on electrical connections

WARNING

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

Notes to electrician: Use a solid copper conductor, size 8 or larger. Run a continuous wire from external bonding lug to reinforcing rod or mesh. Connect a No. 8 AWG (8.4 mm²) [No. 6 AWG (13.3 mm²) for Canada] solid copper bonding wire to the pressure wire connector provided on the electrical equipment and to all metal parts of swimming pool, spa, or hot tub, and metal piping (except gas piping), and conduit within 5 ft. (1.5 m) of inside walls of swimming pool, spa, or hot tub.

IMPORTANT - Reference NEC codes for all wiring standards including, but not limited to, grounding, bonding and other general wiring procedures.

 **WARNING**

Risk of Electric Shock. 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.

 **WARNING**

Risk of Electric Shock . The electrical equipment must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the electrical equipment without the test button being pushed, a ground current is flowing, indicating the possibility of an electrical shock. Do not use this electrical equipment. Disconnect the electrical equipment and have the problem corrected by a qualified service representative before using.

 **CAUTION**

This pump is 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.

TYPES OF ENTRAPMENT HAZARDS:

Suction Entrapment Hazard

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 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 or suction outlet cover which is, damaged, broken, cracked, missing, or unsecured can result in evisceration/ disembowelment.

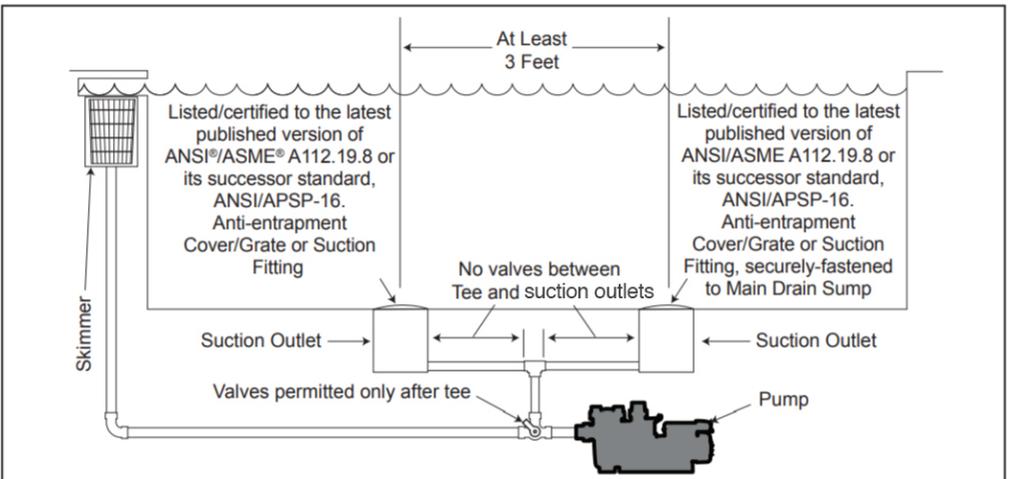
Mechanical Entrapment

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

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 1 metre (3 Feet) 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 water velocity through the suction outlet assembly and its cover for any suction.
- Outlet must not exceed the suction fitting assembly and it's cover's maximum design flow rate. The suction outlet (drain) assembly and its cover must comply with the latest version of ANSI/ASME A112.19.8, the standard for Suction Fittings For Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs, or its successor standard, ANSI/APSP-16.
- 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 the above instructions for two or more suction outlets per pump, they must be installed in accordance with latest ASME, APSP Standards and CPSC guidelines, and follow all National, State, and Local codes applicable.
- Installation of a vacuum release or vent system, which relieves entrapping suction, is recommended



SECTION 2

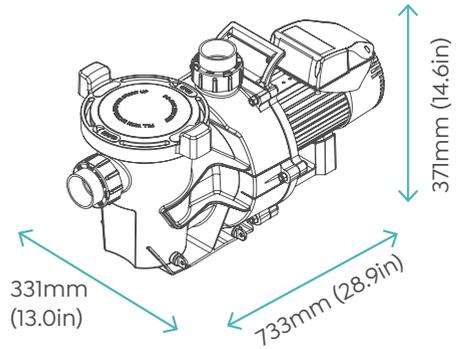
WE WANT YOU TO BE DELIGHTED WITH YOUR PURCHASE, CORRECT INSTALLATION WILL PROLONG LIFE AND MAXIMISE THE PERFORMANCE OF THIS UNIT.

Congratulations on your purchase of an Insnrg Pump.

Your Si Single Speed Pump has been designed and manufactured to provide you with years of trouble-free operation if installed and operated correctly. The following guidelines need to be adhered to to gain the best performance from your swimming pool pump.

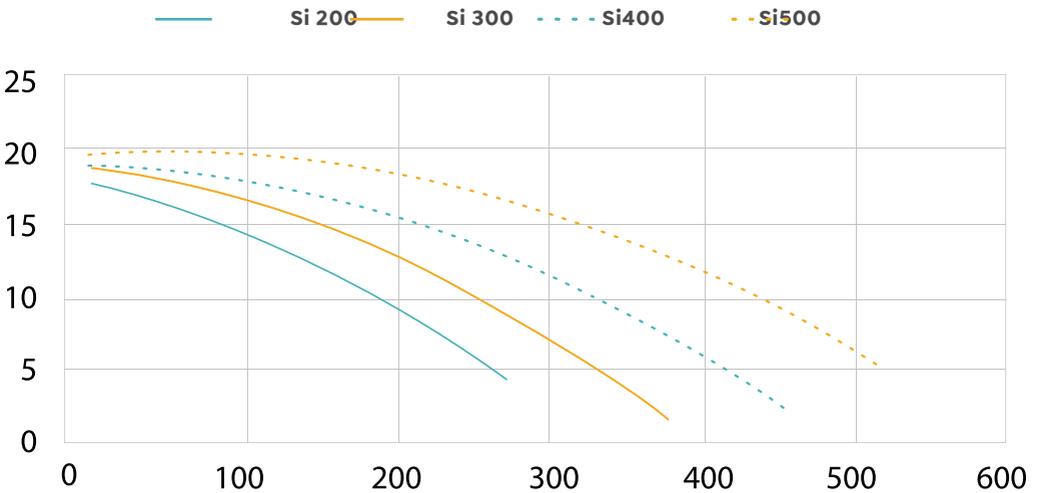
Insnrg highly recommend the use of qualified service technicians to ensure the best performance as well as the health and safety of your family.

SPECIFICATIONS AND DIMENSIONS



MODEL	Si 200	Si 300	Si 400	Si 500
VOLTS	230	230	230	230
INPUT WATTS (W)	800	1050	1600	1900
RPM	1200	1200	1200	1200
FLOW RATE (@ 8m/h)	200	300	400	500
FULL LOAD AMPS	4.5	5.3	6.5	8.3

Si PUMP FLOW CHART



Pump maximum total head is 21 metres

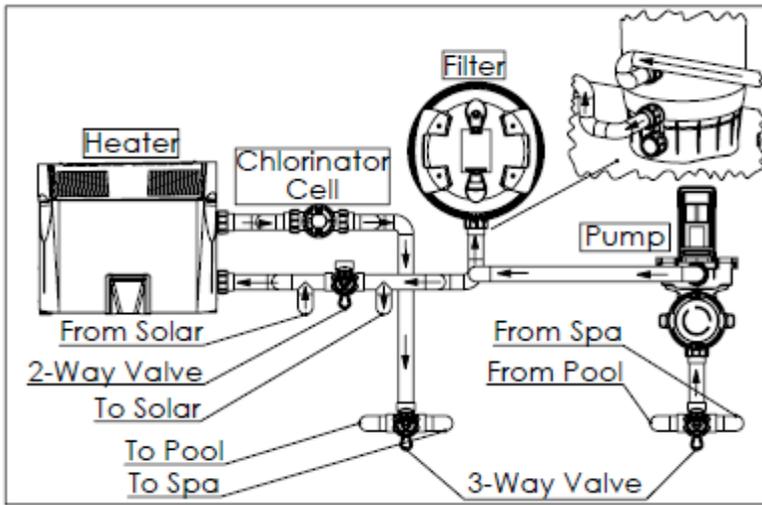
PUMP LOCATION AND CLEARANCES

For optimal performance of your new Insnrg Pump we recommend installing the pump within 30 cm (1 ft) above water level. If the pool pump needs to be elevated more than 1 m (3 ft) above the water level of the pool, then a check valve is recommended on the suction line to the pump.

If the pump is located below water level, isolation valves must be installed on both the suction and return lines to prevent the back flow of pool water during any routine or required servicing.

For electrical connection, install the pump such that any disconnecting means and/or junction boxes are within sight of the pump and at least 1.5 m (5 ft) horizontally from the edge of the pool and/or spa. Choose a location that will minimize the amount of elbows required in the PVC piping.

NOTE: In Canada, the minimum distance maintained from the edge of the pool and/or spa as noted above must be 3 m (10 ft), as required by the Canadian Electrical Code (CEC, CSA C22.1).



The pump must be placed on a solid foundation that will not vibrate. To further reduce the possibility of vibration noise, bolt the pump to the foundation, or place it on a rubber mat.

The pump foundation must have adequate drainage to prevent the motor from getting wet. The pump has been designed for use outdoors, however, to prolong the life of the pump any protection from the rain and sun will ensure a great result.

All motors generate heat when in operation, therefore, please ensure that the motor is installed with adequate ventilation around the motor. Do not install the motor directly onto a wall or fence, the Fan at the back requires at least 2" (50mm) of space to generate enough air-flow.

Provide access for future service by leaving a clear area around the pump. Allow plenty of space above the pump to remove the lid and basket for cleaning.

If the equipment is under cover, provide adequate lighting.

TIPS ON INSTALLATION FOR BEST RESULTS

- 1.** Minimise the amount of PVC Pipe and Fittings through your filtration system. The longer the pipe and the greater the amount of fittings the more pressure is built into the system and the harder the Pump has to operate. This will eventually reduce the lifespan of the Pump as well as costing you more energy to operate.
- 2.** Always use minimum of 50mm (2") PVC Pipe on the Inlet of the Pump.
- 3.** Where possible use minimum of 50mm (2") PVC Pipe on the Outlet of the Pump.
- 4.** Keep Pump clear of any debris, rubbish, other equipment, chemicals, walls etc. It is important that the circulation of air around the motor is clear to help reduce the running temperature and extend the lifespan of the pump.
- 5.** Ensure that if any other equipment exists in your filtration system (ie Filter, Heater, Sanitiser etc) that you have thoroughly checked that the Pump Flow rate does not exceed the maximum flow rates for the other equipment. If it is not suitable, this will affect the performance of the Pump and the other equipment and most likely void any warranty claims on all items.

SECTION 3

HAVE FUN AND GET THE MOST OUT OF YOUR PURCHASE

Now that your Insnrg Pump is installed and operating, it is important to understand how to keep it in the best condition and give you the best results for many years to come.

STARTING / PRIMING THE PUMP

Once your Insnrg Si Single Speed Pump has been installed, it is now time to turn on and fill with water, a process known as 'priming' the Pump. If the Pump is not primed correctly it could cause the Pump to 'run dry'.

Note: Running the pump dry could cause a loss of pressure, resulting in damage to the pump case, impeller and seal.

Firstly, check where your Pump is installed in relation to the pool water level. If below the water level of the pool you need to check that the isolation valves on both the suction and return lines are returned to the 'OPEN' position. They must be OPEN before you start operating the Pump.

The pump strainer pot must be filled with water before the pump is initially started. Your Insnrg Pump has a unique feature that enables the Pump to be filled to a higher level, making the priming process quicker and easier. Follow the steps below to prime the pump:

- 1.** Remove the pump lid and locking ring.
- 2.** Fill the pump strainer pot with water, generally use a Bucket and/or Garden Hose.
- 3.** Reassemble the pump lid and locking ring onto the strainer pot. The pump is now ready to prime.
- 4.** Open the air relief valve on the filter, and stand clear of the filter.
- 5.** Turn on the pump.
- 6.** When water comes out of the filter air relief valve, close the valve. The system should now be free of air and recirculating water to and from the pool.

SECTION 4

OOPS, SOMETHING'S NOT RIGHT?

Maintenance, Trouble Shooting,
Replacement Parts, Warranty &
Contact Section

MAINTENANCE PLAN

Your new Si Single Speed Pump is one of the hardest working items in your household. It is designed to withstand harsh outdoor conditions and withstand high velocity water with chemicals. Some of these parts will wear in the normal course of use and require regular checks and maintenance. A well thought out pro-active maintenance schedule with identify faults early and extend the lifespan of your pump.

To protect against extremes of temperature, your unit is vented to allow expensive electronics to cool. Ants and some insects are often attracted to the warmer, dry environment inside the enclosure. We recommend that, with power turned off, you spray a surface insecticide on the surfaces surrounding the control to prevent ant and insect ingress. Repeat every three months or as necessary.

WHEN?	WHAT ARE YOU LOOKING FOR?	HOW CAN YOU FIX?
Weekly	Check and Empty Basket	Empty Leaves and other debris
Quarterly	Check all Gaskets	Isolate and turn off the Pump. Remove all Gaskets and turn over. You can also apply a silicon based grease to extend the life. If dry, then contact your local pool professional to replace.
	Check around the unit for leaves/ debris or signs of flooding.	Replace any debris that is restricting air circulation around the Pump. If in a flood prone location, rectify.
	Check for any Insects/Ants etc	It is a good practice to use a good quality surface spray around your equipment. Make sure all units are turned off and then spray around all units to eliminate any insect/ ants etc
	Check for any leaks	If you notice any water leaking from the pump. Check gaskets first and reseal. If continues, contact your local pool professional to assess and rectify.

WINTERISATION

Is it important to protect your Si Single Speed Pump from freezing water conditions. As water freezes it expands and that can cause the internals of the Pump to break under the intense pressure of expanding water. It is our to you to monitor temperatures and take the following actions:

- 1.** In mild climate areas, when temporary freezing conditions may occur, run your pump and filtering equipment all night to maintain water circulation and prevent freezing.
- 2.** If freezing conditions are expected, take the following steps to reduce the risk of freeze damage. Freeze damage is not covered under warranty.

To prevent freeze damage follow the procedures listed below:

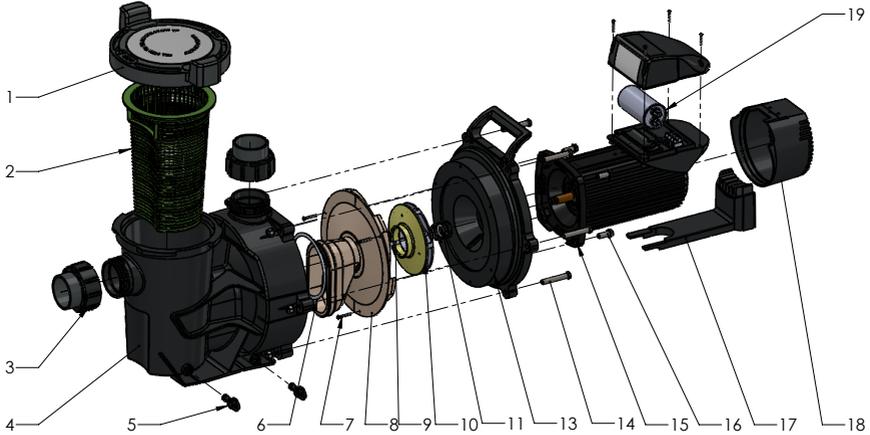
- 1.** Shut off electrical power for the pump at the house circuit breaker.]
- 2.** Drain the water out of the pump housing by removing the two thumb-twist drain plugs from the housing. Store the plugs in the pump basket.
- 3.** Cover the motor to protect it from severe rain, snow and ice. Once the freezing conditions are finished, it is important to reverse the above procedure and prime the pump for operation.

TROUBLESHOOTING

The chart below identifies some of the main issues you may encounter with your pump. This should assist with the majority of problems. Insnrq highly recommends regular checks and maintenance of your swimming pool equipment by a qualified pool professional. This will extend the life of your equipment and give you the best performance.

WHAT IS THE PROBLEM?	WHAT YOU CAN DO ABOUT IT?
<p>Pump will not Prime</p>	<ul style="list-style-type: none"> • Check that any Valves on the Suction and Return lines are open • Check that Lid and Gasket is correctly seated and sealed • Check Unions and Gaskets on Suction and Return side of the Pump are correctly seated and sealed • Fill Wet End of Pump with water as high as possible • Check that water level in the Pool is high enough that water is drawing into the Skimmer • Remove any suction cleaners from the Skimmer Box
<p>Pump Gasket is damaged</p>	<ul style="list-style-type: none"> • Important that the Gasket can fully seal and eliminate any air coming into the Pump. Replace if damaged.
<p>Too much Air in the Pump Basket</p>	<ul style="list-style-type: none"> • Check that any Valves on the Suction and Return lines are fully open • Check that Lid and Gasket is correctly seated and sealed • Check Unions and Gaskets on Suction and Return side of the Pump are correctly seated and sealed • Fill Wet End of Pump with water as high as possible • Check that water level in the Pool is high enough that water is drawing into the Skimmer • Remove any suction cleaners from the Skimmer Box • Check for any debris in Diffuser or Impellor • For a Variable Speed Pump, check that Pump Speed is at the correct level that your pool professional installed at
<p>Debris in Diffuser or Impellor</p>	<ul style="list-style-type: none"> • Switch off power to Pump • Remove the Wet End from the Seal Plate • Remove the Diffuser • Clean out debris from Impellor • Once clean, reassemble and prime pump • If problem still occurs, contact your local pool professional.

REPLACEMENT PARTS OF PUMP



ITEM	CODE	DESCRIPTION	QTY
1	24201009	LID, O RING, LOCK RING ASSEMBLY	1
2	24101403001	PUMP, BASKET	1
3	15201001	UNION ASSEMBLY INCULDING LOCK AND ORING	2
4	24101401001	PUMP VOLUTE	1
5	152003	AIR BLEED VALVE ASSEMBLY INC O RING	2
6	24C021602003	O RING DIFFUSER	1
7	10101014	6-20 X 1" PAN PHIL S/S316	3
8	24191491993	DIFFUSER	1
9	24101405006	1/4 NYLON 1h IMPELLER SCREW	1
10	24201008	IMPELLER 3/4 HP	1
10	24201003	IMPELLER 1.0 HP	1
10	24201004	IMPELLER 1.5 HP	1
10	24201005	IMPELLER 2.0 HP	1
11	24101512	MECHANICAL SEAL 5/8*	1
12	24C01602001	O RING SEAL PLATE	1
13	24201006	SEAL PLATE	1
14	10101010	3/8-16 unc X 2.3" S/S BOLT CAPTIVE WASHER	6
15	24101514000	MOTOR 3/4 HP	1
15	24101514001	MOTOR 1.0 HP	1
15	24101514002	MOTOR 1.5 HP	1
15	24101514003	MOTOR 2.0 HP	1
16	10101013	3/8-24UNF X 1" HEX S/S BOLT CAPTIVE WASHER	6
17	2410140104	MOTOR FOOT ASSEMBLY	1
18	24101405001	FAN COWL	1
19	24101513001	CAPACITOR 3/4- 1.0 HP	1
19	24101513002	CAPACITOR 1.5 HP	1
19	24101513003	CAPACITOR 2.0 HP	1

WARRANTY

Insrg products are designed and manufactured to the highest possible standards of performance.

Australian Consumer Law

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Warranty Period and Conditions

Insrg Techne Pty. Ltd. (hereinafter “the Company”) is pleased to warrant to the original retail purchaser that this product shall be free of manufacturing and material defects for a period of three (3) years from the original invoice date subject to the following conditions:

1. The product is purchased new from an authorised Insrg dealership in Australia, New Zealand or North America.
2. This warranty is not assignable and applies to the original retail purchaser only and the original receipt, invoice or any other proof of purchase must be retained and produced if requested by the Company.
3. Nothing in this warranty shall apply to any defects caused by misuse or abuse, neglect, accident, extremes of climate, dampness, humidity, reasonable fair wear and tear and/or any causes other than defects in manufacturing and materials. Proper care and maintenance information is detailed in the Owner’s Manual for this product which you must follow.
4. Where a defect is physically visible or otherwise affects the exterior surfaces of the product, you must notify the Company of such defect within fourteen (14) days from the date of your purchase.
5. If the product is bought as a demonstration, refurbished, ex-rental, discontinued or otherwise previously unboxed unit, the warranty applicable shall be limited to twelve (12) months only.

Warranty Claim Procedure

To exercise your rights under this warranty, you must:

Within fourteen (14) days of you becoming aware of any defect, report the following details to the dealership from which the product was purchased:

- Your name, address and contact information;
- Model, and serial number of the product; and
- A detailed description of the defect.

On receipt of the above information, the Company will allocate to your dealership an Insnrng Authorisation Number (IAN).

Depending on the model type, how it is installed, and the defect reported, your nominated dealership will advise on how the warranty service will be performed. This could include, but not limited to, return of product to the dealership, return of product to the company, or a visit by qualified service technician to your poolside.

If advised to return the product, place the defective product in secure packaging, clearly label it with the IAN number allocated and send it to the address of the authorised service agent which will be advised by your dealership.

The Company will not be liable for any transportation costs, or in the event that a poolside call is arranged with an authorised service technician, costs of technician's travel time if the defect is found not to be covered by the consumer guarantees.

In the case of returned product, the authorised service technician or dealership will contact the purchaser when the product has been repaired and is ready for collection.

The Company will repair or replace at its absolute discretion your product at no cost for parts or labour in accordance with the terms stated in this warranty provided that the reported defect is able to be located by the technical staff assigned to the product. If the technical staff is unable to locate the defect, you may be liable to pay for the cost of the technician's travel time and labour.

Commercial Installations

Commercial installations are defined as installations where the pool user pays for the use of the pool either directly or indirectly through hiring, renting of accommodation or membership of gym, health club or public pool and where the equipment is operating for more than 12 hours per day. In installations as above, the warranty period is limited to 1 year.

The benefits under this warranty are in addition to your rights and remedies available under the Australian Consumer Law.



We know that you will get many years of enjoyment from this product.

Insnrg has been founded by persons with over 120 years experience in the Pool and Spa industry.

We pride ourselves on developing products that are specifically created for your backyard lifestyle. We are continuously developing new products and ideas to make pool ownership easier and fun.

Should you wish to keep updated with our progress and hear first hand our new products and developments, please feel free to stay in touch by using any or all of the below methods:

SNAIL MAIL

57-59 Nantilla Road,
Clayton, VIC, 3168

LANDLINE

1800 INSNRG (1800 467674)

WEBSITE

www.insnrg.com

A decorative orange shape is located in the bottom-left corner of the page. It consists of a vertical bar with a rounded top-left corner.

insnrg

PRODUCTS IN PERFECT SYNERGY