



# NEPTUNE NPP SERIES POOL PUMP



## INSTALLATION GUIDE AND USER MANUAL



THANK YOU FOR PURCHASING A NEPTUNE NPP POOL PUMP.  
Please read the manual thoroughly before installing or using the product.  
Keep this manual for future reference.



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## **SECTION 1: IMPORTANT WARNINGS AND SAFETY INFORMATION**



This manual contains important information about the installation, operation, and safe use of this product. This information should be given to the owner and/or operator of the pool pump. When installing and using the pool pump, basic safety precautions should always be followed. Failure to follow safety warnings and instructions in this manual can result in serious injury and/or damage to your equipment. Read and follow all warning notices and instructions which are included in this manual.

### **GENERAL WARNINGS**

- Read the instructions before installing and using the pool pump.
- Failure to follow these instructions and comply with all applicable codes may cause serious bodily injury and/or property damage and will void the warranty.
- Children should be supervised to ensure that they do not play with this product.
- 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.
- This pump is for use with permanently installed in-ground or above-ground swimming pools and may also be used with hot tubs and spas with a water temperature under 50°C. Due to the fixed installation method, this pump is not suggested to be used on above-ground pools that can be readily disassembled for storage.
- This pump is not submersible.
- Never open the inside of the drive motor enclosure.
- Before servicing the pump, switch power OFF to the pump by disconnecting the main circuit to the pump and release all pressure from pump and piping system.
- This product contains electrical equipment. Dispose of the product in accordance with local regulations.
- Use only genuine replacement parts supplied by the manufacturer for service and repair.

### **INSTALLATION WARNINGS**

- Only qualified personnel should install pump.
- Installers/operators must follow manufacturer's instructions and keep in compliance with national or local standards for installation. Under no circumstances will the manufacturer be held responsible for any outcome incurred by failure to comply with applicable standards or local regulations.
- The pump must be installed in accordance with AS3000 Wiring Standards. Failure to do so will void any warranty.
- Always comply with national and local electrical codes and standards.

### **OPERATION WARNINGS**

- IEC: 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 they have been given supervision or instruction concerning the use of this product by a person responsible for their safety.
- EN/UKCA: This product can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of this product in a safe way and understand the hazards involved. Children shall not play with this product. Cleaning and maintenance shall not be conducted by children without supervision.
- NEVER run pump dry. Fill the pump with water before starting. In case of dry run, mechanical seal will be damaged and the pump will start leaking. This will void your warranty.
- Never tighten or loosen screws while the pump is operating.
- Ensure that the inlet and outlet of the pump are not blocked by foreign matter.
- DO NOT BLOCK PUMP SUCTION. To do so with body may cause severed or fatal injury. Children using pool must ALWAYS have close adult supervision.
- Before removing pump lid:
  1. STOP PUMP.
  2. CLOSE GATE VALVES in suction and discharge pipes.
  3. RELEASE ALL PRESSURE from pump and piping system.
  4. NEVER tighten or loosen screws while pump is operating.

## **DISCLAIMER**

Information in this manual is intended to provide general information on a particular subject(s) in good faith and is not an exhaustive treatment of such subject(s). Its use is beyond the control of the author, contributor, publishers, and distributors and should not be relied upon without consulting your local Professional for comprehensive advice. This manual includes subject(s) that should only be performed by or under the direction and advice of your local Professional and under no circumstances should the manual be used as a substitute for such professionals. No representations or warranties are made that the content, advice, and recommendations in this manual are current, free from errors or omissions, or appropriate for the user's circumstances or abilities. No liability is accepted for any loss suffered as a result of any user's reliance on such content. All information in this document is subject to change at any time without notice.

## **SECTION 2: PACKAGING CONTENTS**

The following items are included in the packaging of the pool pump. Please contact your authorised dealer if any items are damaged or missing.

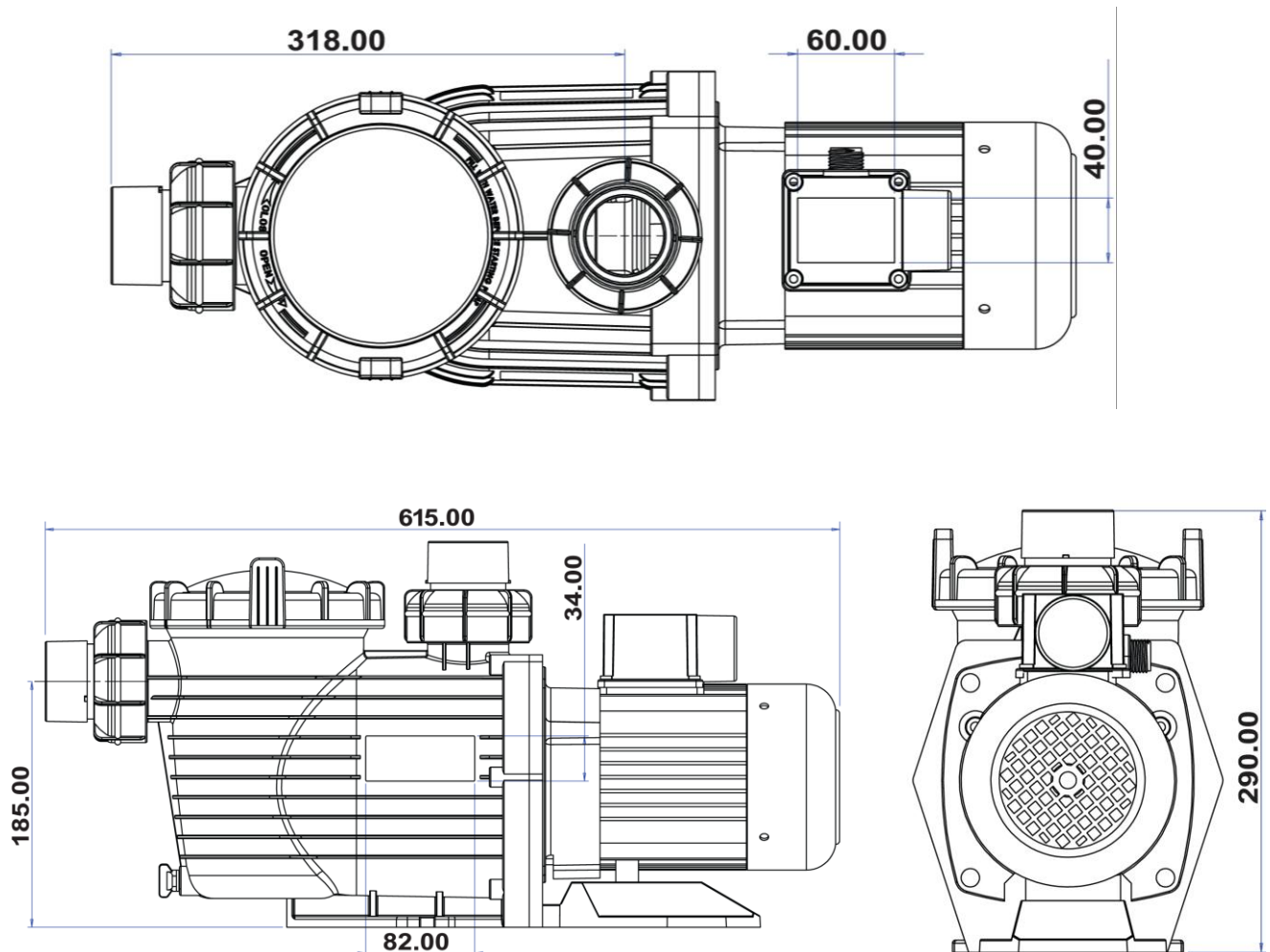
Pool Pump x 1

User Manual x 1

Unions x 2

## **SECTION 3: PRODUCT SPECIFICATIONS**

### **3.1: PRODUCT DIMENSIONS**



### 3.2: TECHNICAL DATA

Model	220-240V/50Hz	Connection Size (mm)	Max Flow (m3/h)	Max Head (m)	Average Flow Rate (7m Head)	Power (W)	Current (A)
NPP550	0.75hp	40/50 Inlet - 40 Outlet	13.5	15.5	190L/min	550	2.5
NPP750	1.0hp	50 Inlet - 40 Outlet	18.8	17.0	285L/min	750	3.5
NPP1100	1.25hp	50 Inlet - 40/50 Outlet	23.8	18.8	360L/min	900	4.5
NPP1500	1.5hp	50 Inlet - 40/50 Outlet	24.2	19.2	390L/min	1100	5.5

Motor	
Type	Asynchronous Two Poles
Nominal Speed	2850rpm
IP Rating	X5
Insulation Class	Class B 130°C
Voltage	220V - 240V
Frequency	50Hz

Materials	
Pump Body	ABS + 15% Glass Filled
Impeller	PC + 20% Glass Filled
Motor Shaft	SS316
Back Plate	ABS + 40% Glass Filled
O-Ring	Nitrile
Barrel Unions	PVC + 20% ABS
Seal Bellows	EPDM - Viton
Seal Stationary Face	SiC - Polished Ceramic
Seal Rotating Face	Carbon
Seal Spring	SS316

## **SECTION 4: INSTALLATION**

### **4.1: INSTALLATION WARNINGS**



- Only qualified, licensed personnel should install pump and wiring.
- Electrical contractors please note: pump must be wired to the main power supply through an approved and correctly rated contractor.
- Installers/operators must follow manufacturer's instructions and keep in compliance with national or local standards for installation. Under no circumstances will the manufacturer be held responsible for any outcome incurred by failure to comply with applicable standards or local regulations.
- The pump must be installed in accordance with AS3000 Wiring Standards. Failure to do so will void any warranty.
- Always comply with national and local electrical codes and standards.

### **4.2: PUMP LOCATION**

1. Install the pump as close to the pool as possible. To reduce friction loss and improve efficiency, use short, direct suction and return piping.
2. DO NOT install pump at more than 3m geometrical height from water level.
3. Pump mount must be solid, level, rigid and vibration free.
4. To avoid direct sunshine, excess moisture, heat or rain, install the pump indoors or in the shade.
5. DO NOT install pump in a damp or non-ventilated location. Keep pump and motor at least 150mm away from obstacles. Pump motors require free circulation of air for cooling.
6. The pump should be installed horizontally and fixed with screws to prevent unnecessary noise and vibration.
7. Allow for gate valves in suction and discharge piping.
8. Allow for adequate access for servicing pump and piping.
9. Have adequate floor drainage to prevent flooding.

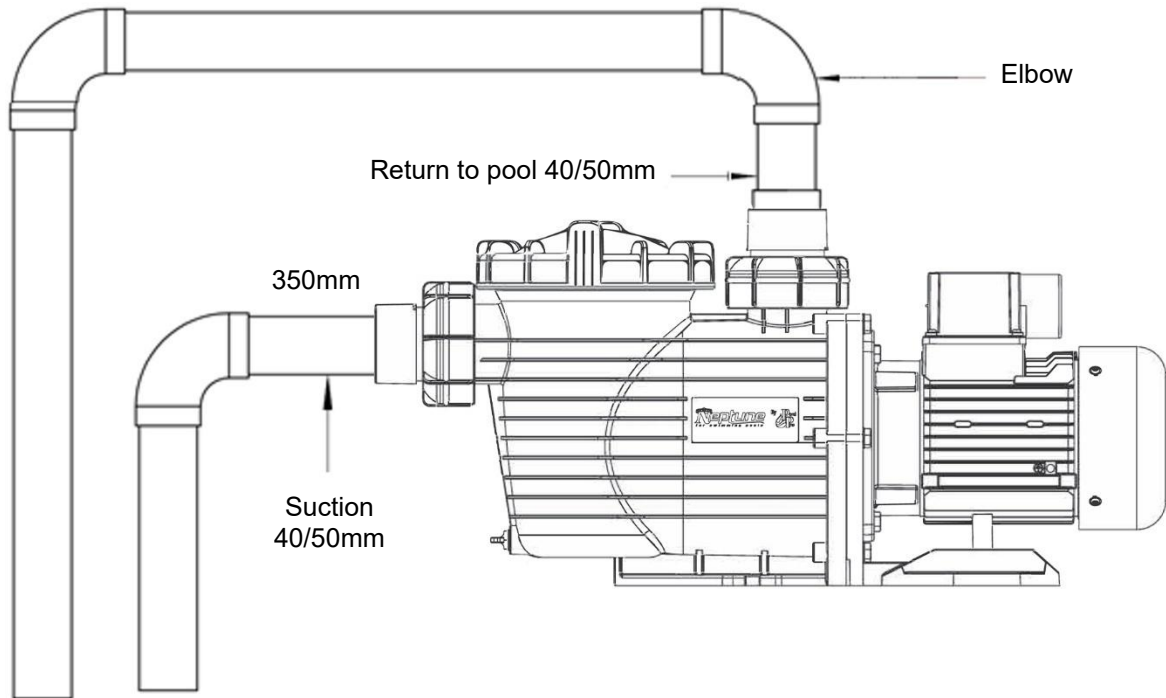
### **4.2: PLUMBING THE POOL PUMP**

**NOTE: Pump suction and discharge connections have moulded in thread stops, DO NOT try to screw pipe in beyond these stops.**

1. When installing the inlet and outlet fittings, use special sealant for PVC material.
2. The dimensions of the suction line should be the same or larger than the inlet line diameter, to avoid the pump sucking air, which will affect the pump's efficiency.
3. Plumbing on the suction side of the pump should be as short as possible.
4. For most installations we recommend installing a valve on both the pump suction and return lines, which is more convenient for routine maintenance. However, we also recommend that a valve, elbow, or tee installed on the suction line should be no closer to the front of the pump than seven times the suction line diameter.
5. The pump outlet piping system should be equipped with a check valve to prevent the pump from the impact of medium recirculation and water hammer.

### **4.3: VALVES & FITTINGS**

1. Elbows should be no closer than 350mm to the inlet. Do not install 90° elbows directly into the pump inlet/outlet. Joints must be tight.
2. Flooded suction systems should have gate valves installed on suction and return line for maintenance. The suction gate valve should be no closer than seven times the suction pipe diameter as described in this section.
3. Use a check valve in the return line where there is a significant height between the return line and the outlet of the pump.
4. Be sure to install check valves when plumbing in parallel with other pumps. This helps prevent reverse rotation of the impeller and motor.



## **SECTION 6: START-UP AND OPERATION OF THE PUMP**

### **6.1: OPERATION WARNINGS**



- IEC: 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 they have been given supervision or instruction concerning the use of this product by a person responsible for their safety.
- EN/UKCA: This product can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of this product in a safe way and understand the hazards involved. Children shall not play with this product. Cleaning and maintenance shall not be conducted by children without supervision.
- NEVER run pump dry. Fill the pump with water before starting. In case of dry run, mechanical seal will be damaged and the pump will start leaking. This will void your warranty.
- Never tighten or loosen screws while the pump is operating.
- Ensure that the inlet and outlet of the pump are not blocked by foreign matter.
- DO NOT BLOCK PUMP SUCTION. To do so with body may cause severed or fatal injury. Children using pool must ALWAYS have close adult supervision.
- Before removing pump lid:
  1. STOP PUMP.
  2. CLOSE GATE VALVES in suction and discharge pipes.
  3. RELEASE ALL PRESSURE from pump and piping system.
  4. NEVER tighten or loosen screws while pump is operating.
- Check all wirings and plumbing carefully before turning on the pool pump.



## **6.2: PRE-STARTUP INSPECTION**

1. Ensure the pump shaft rotates freely.
2. Ensure the power supply voltage and frequency conform to the nameplate.
3. Facing the fan blade, the direction of motor rotation should be clockwise.
4. Check all wirings and plumbing are installed correctly.
5. Do not to run the pump without water.

## **6.2: PRIMING & STARTUP**



- Prime the pump with water before starting, or after emptying the pump basket.
- NEVER run pump dry. Fill the pump with water before starting. In case of dry run, mechanical seal will be damaged and the pump will start leaking. This will void your warranty.

1. Ensure the pump is turned off.
2. Release all air from filter and piping system (refer to your filter's user manual).
3. In a flooded suction system (water source higher than pump), open suction and discharge valves then release all air pressure.
4. If not in a flooded suction system, unscrew and remove pump lid, and fill wet end with water.
5. Reinstall pump lid, ensuring O-Ring is located correctly, free of debris and lubricated with silicone grease. ONLY TIGHTEN PUMP LID BY HAND.
6. Turn on pump.
7. Release any air pressure from system (refer to your filter's user manual).

## **SECTION 8: MAINTENANCE**

Empty the pump basket frequently. The basket should be inspected through the transparent lid and emptied when there is debris inside. The following instructions should be followed:

1. Turn pump off.
2. Close gate valve in suction and discharge, and release all pressure from system before proceeding.
3. Unscrew the pump lid anti-clockwise and remove.
4. Lift up the pump basket.
5. Empty the debris from the basket and rinse out the debris if necessary.  
**NOTE:** Do not knock the plastic basket on a hard surface as it will cause damage.
6. Inspect the basket for signs of damage and replace if required.
7. Check the Pump Lid O-Ring for stretching, tears, cracks or any other damage.
8. Re-install pump basket with the large opening at the pipe connection port. If basket is placed backwards the pump lid will not fit properly on the pump body.
9. Re-install the pump lid, only tighten by hand.
10. Prime pump before restarting.

**NOTE:** Periodically inspecting and cleaning the pump basket will help prolong the life of your pump.

## **SECTION 10: SERVICE & REPAIR**

Refer all service and repair to your local agent or dealer as their knowledge of your equipment makes them the best qualified source of information. Order all spare parts through your local agent or dealer. Give the following information when ordering spare parts:

- Unit nameplate data or serial number on label.
- Description of part.

## **SECTION 11: TROUBLESHOOTING**

<b>Problem</b>	<b>Possible causes and solution</b>
<b>Pump does not start</b>	<ul style="list-style-type: none"> <li>• Power supply fault, disconnected or defective wiring or circuit breaker.</li> <li>• Fuses blown or thermal overload open.</li> <li>• Check the rotation of the motor shaft for free movement and lack of obstruction.</li> <li>• Motor windings burned out.</li> <li>• Defective starting switch in single phase motor.</li> </ul>
<b>Pump does not prime</b>	<ul style="list-style-type: none"> <li>• Empty pump basket. Make sure the pump housing is filled with water and the Pump Lid O-Ring is clean.</li> <li>• Loose connections on the suction side.</li> <li>• Pump basket or skimmer basket loaded with debris.</li> <li>• Suction side clogged.</li> <li>• Distance between pump inlet and water level is higher than 3m, the installation height of pump should be lowered.</li> </ul>
<b>Pump does not reach full speed</b>	<ul style="list-style-type: none"> <li>• Low voltage.</li> <li>• Pump connected for wrong voltage.</li> </ul>
<b>Motor overheats (protector trips)</b>	<ul style="list-style-type: none"> <li>• Low voltage.</li> <li>• Motor windings connected for wrong voltage on dual voltage model.</li> <li>• Inadequate ventilation.</li> </ul>
<b>Pump does not deliver water</b>	<ul style="list-style-type: none"> <li>• Pump is not primed.</li> <li>• Closed valve in suction or discharge line.</li> <li>• Leakage or air into suction system.</li> <li>• Impeller clogged.</li> </ul>
<b>Water leaks at shaft</b>	<ul style="list-style-type: none"> <li>• Shaft seal requires replacement.</li> </ul>
<b>Low pump capacity</b>	<ul style="list-style-type: none"> <li>• Valve in suction or discharge line partly closed.</li> <li>• Suction or discharge line partly plugged.</li> <li>• Suction or discharge line too small.</li> <li>• Clogged basket in skimmer or hair and lint strainer.</li> <li>• Dirty filter.</li> <li>• Impeller clogged.</li> </ul>
<b>High pump pressure</b>	<ul style="list-style-type: none"> <li>• Discharge valve or inlet fittings closed too much.</li> <li>• Return lines too small.</li> <li>• Dirty filter.</li> </ul>
<b>Noisy pump/motor</b>	<ul style="list-style-type: none"> <li>• Clogged basket in skimmer or hair in lint strainer.</li> <li>• Worn motor bearings.</li> <li>• Valve in suction line partly closed.</li> <li>• Suction line partly clogged.</li> <li>• Vacuum hose clogged or too small.</li> <li>• Pump not supported properly.</li> </ul>
<b>Air bubbles at inlet fitting</b>	<ul style="list-style-type: none"> <li>• Leakage of air into suction line at connections or valve stem.</li> <li>• Cover gasket of hair and lint strainer needs cleaning.</li> <li>• Low water level in pool.</li> </ul>

**NOTE: If the recommendations in the trouble shooting portion of this manual do not solve your particular problem(s), please contact your local dealer or place of purchase for service.**

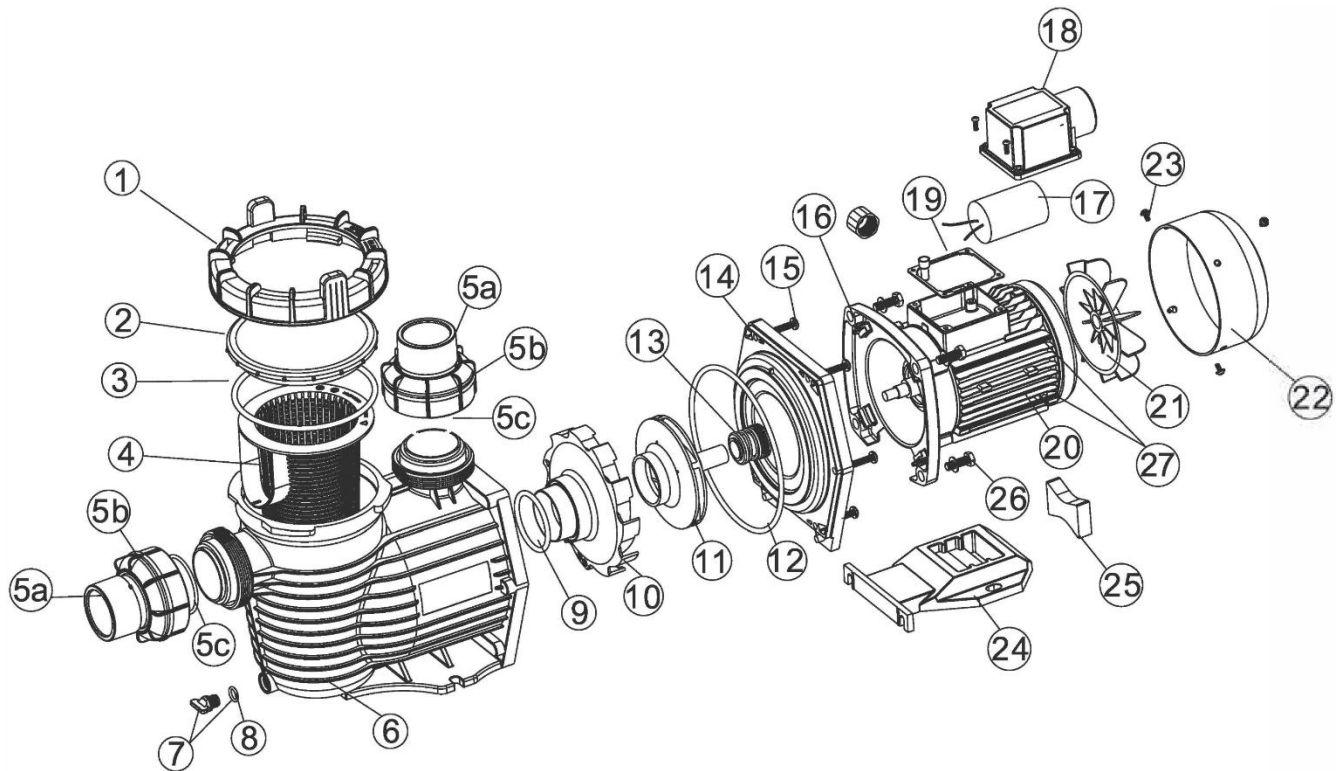
## **SECTION 12: DISPOSAL**

When disposing of the product, please sort the waste products as electrical or electronic product waste, or hand it over to the local waste collection system.

The separate collection and recycling of waste equipment at the time of disposal will help ensure that it is recycled in a manner that protects human health and the environment. Contact your local authority for information on where you can drop off your water pump for recycling.



## SECTION 13: SCHEMATICS



Ref #	Code	Description
1,2,3	NPP01	Lid Assembly
1	NPP02	Lid Lock Ring
2	NPP04	Lid Clear Top
3	OR920	Lid O-Ring
4	SBN1	Pump Basket
5a,b,c	NPP05	Half Union Assembly
5a	NPP06	Union Sleeve
5b	NPP07	Union Nut
5c	OR921	Union O-Ring (2pk)
6	NPP09	Wet End
7	NPP10	Drain Plug & O-Ring
8	OR922	Drain Plug & O-Ring (5pk)
9,12,13	NPP41	Seal Kit
9	OR923	Diffuser O-Ring (4pk)
10	NPP13	Diffuser
11	NPP14	Impeller NPP550
	NPP15	Impeller NPP750
	NPP16	Impeller NPP1100
	NPP17	Impeller NPP1500
12	OR924	Backplate O-Ring
13	MC16	Mechanical Seal
14	NPP20	Backplate
15	NPP21	Backplate Bolts (6pk)
16	NPP22	Drive Endshield

Ref #	Code	Description
17	NPP23	Capacitor 20uf NPP550
	NPP24	Capacitor 25uf NPP750
	NPP25	Capacitor 30uf NPP1100 & NPP1500
18	NPP26	Capacitor Cover
19	NPP27	Capacitor Cover Gasket
20	NPP28	Motor NPP550
	NPP29	Motor NPP750
	NPP30	Motor NPP1100
	NPP31	Motor NPP1500
21,22,23	NPP42	Fan Kit
21	NPP32	Fan
22	NPP33	Fan Cover
23	NPP34	Fan Cover Screws (4pk)
24	NPP35	Motor Base
25	NPP36	Motor Base Adapter
26	NPP37	Motor Bolts (4pk)
27	NPP39	Thru Bolts (4pk)
Not Shown	NPP38	Bearing Set (2pk)
Not Shown	NPP40	Capacitor Wire Splice Terminal
Not Shown	NPP43	Front Shaft Rubber Washer (4pk)
Not Shown	NPP44	Rear Bearing Wear Washer (4pk)
Not Shown	NPP45	Rear Shaft Rubber Washer (4pk)
Not Shown	NPP46	Fan Circlip (4pk)

## **SECTION 14: WARRANTY AND PRODUCT REGISTRATION**

Please register your product online at [www.poolpro.com.au/product-registration](http://www.poolpro.com.au/product-registration).

- The limited warranty for the Neptune NPP Pool Pump (models NPP550, NPP750, NPP1100 and NPP1500) covers manufacturer's defects in materials and workmanship for:
  - Three (3) years on pump/wet end and components.
  - Two (2) years on motor and electronics.
  - One (1) year on mechanical seal.
  - One (1) year on labour.
- If the pool pump is installed in a commercial setting, the warranty period is one (1) year on the abovementioned parts and labour.
- All warranty periods are effective from the original date of purchase.
- The warranty is only valid for the original purchaser and is non-transferable.
- Adverse operating conditions beyond the control of the manufacturer such as improper voltage, excessive ambient temperature, corrosive or aggressive climate or location, or any condition that adversely affects the performance of the equipment will render this warranty null and void.
- Defective equipment must be returned to the authorised dealer as soon as the purchaser becomes aware of the defect and all transport costs must be prepaid.
- Neither the manufacturer nor the authorised dealer shall be responsible for any goods damaged in transit.
- Any liability of the manufacturer pursuant to the Trade Practices Act 1974, as amended for a breach of a condition or warranty shall be limited to replacing or acquiring the equipment (or part thereof) where the same has been supplied.
- The maximum liability incurred by the manufacturer shall not in any case exceed the contract price for the equipment or the product parts or components thereof claimed to be defective. Further, the manufacturer shall not be liable for any loss, damage or delay directly or indirectly caused by any malfunction of or defect of or failure of the equipment other than as expressly provided in this warranty.
- The manufacturer and authorised dealer will not be held liable for damage caused to the pool and surrounding areas.
- Pool Pro products are warranted without exclusion to your rights under the Australian Consumer Law.
- Keep your original purchase invoice and serial number in a safe place.

Warranty is void under the following circumstances:

- Incorrect operation of the unit by not following correct instructions.
- Foreign matter blocking impeller or restricting water flow.
- Incorrect installation, including installations not in accordance with AS3000 Wiring Standards.
- Inadequate ventilation.
- Improper maintenance and balancing of pool water.
- Damage caused to the pool pump due to misuse or damage caused by any other means than manufacturer defect.
- If the pool pump is repaired or serviced by an unauthorised dealer or serviceman.
- If a fault occurs in the operation of the pool pump by using non-genuine parts/accessories.
- If the pool pump has been misused, neglected, damaged or altered in any way, including running the pump without sufficient water flow, lightning strikes, flooding or incorrect power supply.
- Normal wear and tear of consumable products including mechanical seals, capacitors and bearings.

To submit a warranty request, visit [www.poolpro.com.au/serviceclaim](http://www.poolpro.com.au/serviceclaim)