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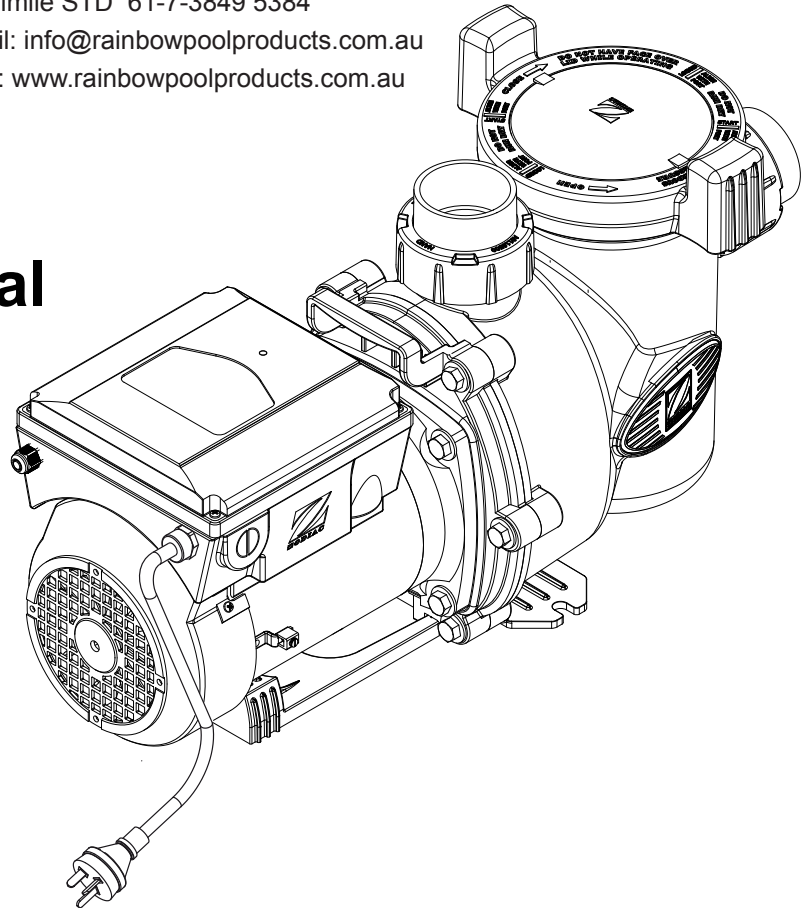
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Installation and Operation Manual



Zodiac ePump™ WZEP-Series Pumps PMSM

WARNING

FOR YOUR SAFETY: This product must be installed and serviced by a professional service technician, qualified in pool/spa installation. The procedures in this manual must be followed exactly. Improper installation and/or operation can create dangerous electrical hazards, which can cause high voltages to run through the electrical system, possibly causing death, serious injury or property damage. Improper installation and/or operation will void the warranty.



ATTENTION INSTALLER: This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.



Table of Contents

<p>Section 1. Important Safety Instructions 3</p> <p> 1.1 Safety Instructions 3</p> <p> 1.2 Pool Pump Suction Entrapment Prevention Guidelines 5</p> <p>Section 2. General Description 6</p> <p> 2.1 Introduction 6</p> <p> 2.2 Description 6</p> <p>Section 3. Installation Information 6</p> <p> 3.1 Plumbing 6</p> <p> 3.1.1 Preparation Information 6</p> <p> 3.1.2 Pump Location 6</p> <p> 3.1.3 Pipe Sizing and Flow Direction 7</p> <p> 3.2 Electrical Installation 7</p> <p> 3.2.1 Installing the Controller 8</p> <p> 3.3 ePump Dip Switch Settings 9</p> <p> 3.4 Remove Pump Lid 9</p> <p> 3.5 Conduct Pressure Test 10</p> <p>Section 4. Operation 11</p> <p> 4.1 Start-up 11</p> <p>Section 5. Service and Maintenance 12</p>	<p> 5.1 Routine Maintenance 12</p> <p>Section 6. Troubleshooting and Repair 13</p> <p> 6.1 Troubleshooting 13</p> <p> 6.2 Service Technician Maintenance 15</p> <p> 6.2.1 Blocked Impeller 15</p> <p> 6.2.2 Impeller Removal and Replacement 15</p> <p> 6.2.3 Mechanical Seal Replacement 17</p> <p> 6.2.4 Motor Replacement 18</p> <p>Section 7. Product Specifications and Technical Data 19</p> <p> 7.1 Replacement Parts List and Exploded View 19</p> <p> 7.2 Performance Curves 21</p> <p> 7.3 Physical and Operational Specifications 22</p> <p> 7.3.1 Specifications 22</p> <p> 7.3.2 Dimensions 22</p> <p> 7.4 Replacement Motor Guide 22</p>
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EQUIPMENT INFORMATION RECORD	
DATE OF INSTALLATION _____	
INSTALLER INFORMATION _____	
INITIAL PRESSURE GAUGE READING (WITH CLEAN FILTER) _____	
PUMP MODEL _____	HORSEPOWER _____
NOTES: _____	

Section 1. Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

1.1 Safety Instructions

All electrical work must be performed by a licensed electrician and conform to AS/NZS 3000. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

 **WARNING**

RISK OF SUCTION ENTRAPMENT HAZARD, WHICH, IF NOT AVOIDED, CAN RESULT IN SERIOUS INJURY OR DEATH. Do not block pump suction, as this can cause severe injury or death. Do not use this pump for wading pools, shallow pools, or spas containing bottom drains, unless the pump is connected to at least two (2) functioning suction outlets. Drain covers must be certified to the latest published edition of AS1926.3.

 **WARNING**

To reduce the risk of injury, do not permit children to use this product.

 **WARNING**

To reduce the risk of property damage or injury, do not attempt to change the backwash (multiport, slide, or full flow) valve position with the pump running.

 **WARNING**

Incorrectly installed equipment may fail, causing severe injury and/or property damage.

 **WARNING**

The pump is for fixed installations only and to be used in conjunction with swimming pool equipment. (e.g. filters). The pump is to be installed in accordance with the relevant requirements of the Australian wiring rules AS/NZS 3000. Also refer to the installation instructions relating to the swimming pool equipment for which the pump will be an integral part. The pump is to be supplied through a residual current device (RCD) with a rated residual operating current of 30mA. If the supply cord is damaged it must be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid a hazard.

**⚠ WARNING**

To minimize risk of severe injury or death, the filter and/or pump should not be subjected to the piping system pressurization test.

Local codes may require the pool piping system to be subjected to a pressure test. These requirements are generally not intended to apply to the pool equipment, such as filters or pumps.

Zodiac pool equipment is pressure tested at the factory.

If, however, the WARNING cannot be followed and pressure testing of the piping system must include the filter and/or pump, **BE SURE TO COMPLY WITH THE FOLLOWING SAFETY INSTRUCTIONS:**

- Check all clamps, bolts, lids, lock rings, and system accessories to ensure they are properly installed and secured before testing.
- **RELEASE ALL AIR** in the system before testing.
- Water pressure for test must **NOT EXCEED 245 kPa**.
- Water temperature for test must **NOT EXCEED 38°C**.
- Limit test to 24 hours. After test, visually check system to be sure it is ready for operation.

Notice: These parameters apply to Zodiac equipment only. For non-Zodiac equipment, consult the equipment manufacturer.

⚠ WARNING

Chemical spills and fumes can weaken pool/spa equipment. Corrosion can cause filters and other equipment to fail, resulting in severe injury or property damage. Do not store pool chemicals near your equipment.

CAUTION

Do not start pump dry! Running the pump dry for any length of time will cause severe damage and will void the warranty.

CAUTION

This pump is for use with permanently installed 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 may be readily disassembled for storage and reassembled to its original integrity.

SAVE THESE INSTRUCTIONS



1.2 Pool Pump Suction Entrapment Prevention Guidelines

⚠ WARNING

Pump suction is hazardous and can trap and drown or disembowel bathers. Do not use or operate swimming pools, spas, or hot tubs if a suction outlet cover is missing, broken, or loose. The following guidelines provide information for pump installation that minimizes risk of injury to users of pools and spas. Refer to Australian Standard 1926.3 for further information.

⚠ WARNING

The pump is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the pump safely. Young children should be supervised to ensure that they do not play with the pump.



Section 2. General Description

2.1 Introduction

This manual contains information for the proper installation, operation, and maintenance of Zodiac ePump WZEP Series variable-speed pumps PMSM (Permanent Magnet Synchronous Motor). Procedures in this manual must be followed exactly. To obtain additional copies of this manual, contact Zodiac Customer Service at 1800 688 552. For address information, see the back cover of this manual.

2.2 Description

The ePump is a variable-speed pump that can be run from 600 RPM to 2830 RPM. When connected to the Zodiac ePump controller, up to eight (8) speed settings may be programmed and recalled. This allows you to select the most appropriate speed for your application. Even more versatile programming is possible when you use a Jandy AquaLink® RS controller.

Zodiac ePump Series Pumps are designed to meet the needs of today's more hydraulically demanding pool equipment. The pump housing, backplate, diffuser, impeller, and hair and lint pot (pump debris filter basket) are all made from high quality thermoplastic materials. These materials were chosen for their strength and corrosion resistance.

The pump is driven by an electric motor directly attached to the pump impeller. As the electric motor turns, it causes the impeller to turn, which forces water to flow through the pump. The water flows through the pump inlet and then into the filter basket. The basket assembly pre-strains/traps large particles. The water then enters the center of the pump housing, flows through the impeller into the diffuser, and flows out the pump discharge port.

The Zodiac ePump utilizes a double-insulated construction to prevent the motor shaft from being in contact with the pool water during operation.

Section 3. Installation Information

3.1 Plumbing

3.1.1 Preparation Information

1. Upon receipt of the pump, check the carton for damage. Open the carton and check the pump for concealed damage, such as cracks, dents or a bent base. If damage is found, contact the shipper or distributor where the pump was purchased.
2. Inspect the contents of the carton and verify that all parts are included. See Section 7.1, Replacement Parts List and Exploded View.

3.1.2 Pump Location

1. Zodiac Group Australia Pty Ltd recommends installing the pump within 300mm above water level. The pump should not be elevated more than 1 metre above the water level of the pool. A Jandy check valve is recommended on the suction line to the pump.

NOTE To achieve better self-priming, install the pump as close as possible to the water level of the pool.

2. If the pump is located below water level, isolation valves **must** be installed on both the suction and return lines to prevent back flow of pool water during any routine or required servicing.
3. Zodiac Group Australia Pty Ltd recommends that the pump and other circulation equipment be located more than 1.5 metres from the water. Choose a location that will minimize elbows in the piping.
4. 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.

NOTE Zodiac Group Australia Pty Ltd recommends bolting the pump directly to the foundation.

5. The pump foundation must have adequate drainage to prevent the motor from getting wet. Protect the pump from the rain and sun.
6. Proper ventilation is required for the pump to operate normally. All motors generate heat that must be removed by providing proper ventilation. Zodiac insists on 150mm clearance at the rear of the pump to ensure adequate ventilation and to facilitate motor removal.
7. Provide access for future services by leaving a clear area around the pump. Allow plenty of space above the pump to remove the lid and basket for cleaning.
8. If the equipment is in a potentially dark area, provide adequate lighting.

3.1.3 Pipe Sizing and Flow Direction

The Zodiac ePump shall be installed with suction and discharge piping and direction of water flow as shown in Figure 1. Piping should be sized in accordance with sections 3.1.3.1 and 3.1.3.2 below.

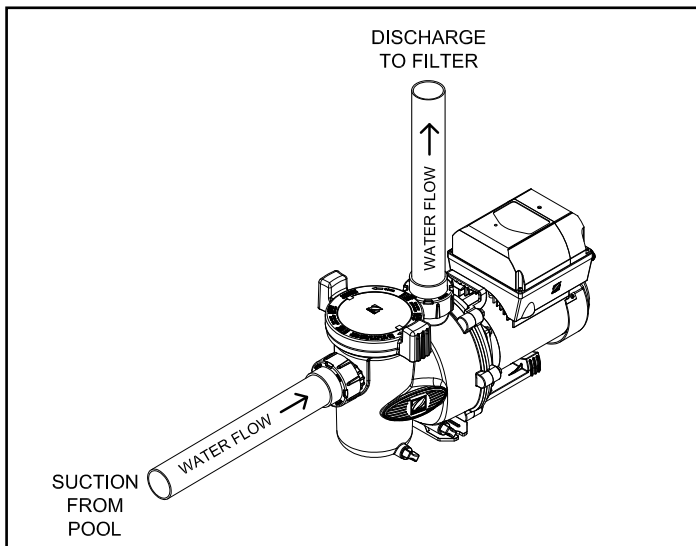


Figure 1. Flow Direction

3.1.3.1 Suction Pipe

When the pump is located up to 15 metres from the pool, the recommended Class 9 minimum pipe size for the suction side of the pump is 40mm.

3.1.3.2 Discharge Pipe

When the pump is located up to 15 metres from the pool, the recommended Class 9 minimum pipe size for the suction side of the pump.

NOTE All pipe sizes (Class 9) are able to withstand the pressures the pump will deliver, but not necessarily the flow. If the pipe is too small for the pump or is elevated above water, the maximum litres per minute (LPM) may not be delivered. If this happens, the pump will develop an air pocket (cavitation) that will make noise, and the life of the pump may be shortened.

3.1.3.3 Installation Recommendations

1. If the pump is located below water level, isolation valves **must** be installed on both sides of the pump to prevent the back flow of pool water during any routine or required servicing.
2. ePump Series Pumps come equipped with unions on both the suction and discharge ports. This feature simplifies installation and service and eliminates the possibility of leaks at threaded adapters.
3. The piping must be well supported and not forced together where it will experience constant stress.
4. Always use properly sized valves. Jandy Gate Valves typically have the best flow capabilities.
5. Use the fewest fittings possible. Each additional fitting has the effect of moving the equipment farther away from the water.

NOTE If more than 10 suction fittings are needed, the pipe size must be increased.

3.2 Electrical Installation

⚠ WARNING

Turn off the pump switch. Switch off the circuit breaker to the pump motor.

1. Note the LED on the top of the electronics drive enclosure. The LED is lit whenever power is present at the motor, regardless of whether the motor is running or not.

NOTE Since the pump is operated by either an ePump controller, an AquaLink® RS controller, or an AquaLink® Pool Digital Assistant (PDA), the pump will not operate until it is turned on with one of these controllers.



3.2.1 Installing the Controller

The ePump can be operated by one of three (3) controllers: the ePump controller, the AquaLink® RS controller (Rev O or later), or the AquaLink® PDA (Rev 4.0 or later).

The ePump communicates with the controllers via a four-wire RS-485 interface.

To install the ePump controller:

⚠ WARNING

Turn off the pump switch. Switch off the circuit breaker to the pump motor.

NOTE The ePump controller part no. is WZEP-R.

1. Remove power from the ePump by disconnecting the high voltage lines or by opening any breaker to which the ePump power is connected.
2. Remove the cover of the ePump drive electronics.
3. Slide dip switches 1 and 2 up, so they are in the ON position, and slide switches 3 and 4 down, so they are in the OFF position. See Figure 2. Reattach the cover of the ePump drive electronics.
4. Connect the exposed end of the RS-485 cable to the controller. Match the wire colours with the positions on the connector: 1 - red, 2 - black, 3 - yellow, 4 - green. See Figure 2.
5. Restore power to the ePump and verify the operation of the controller.
6. Refer to the ePump Controller Owner's Manual, H0352000, to operate the pump.

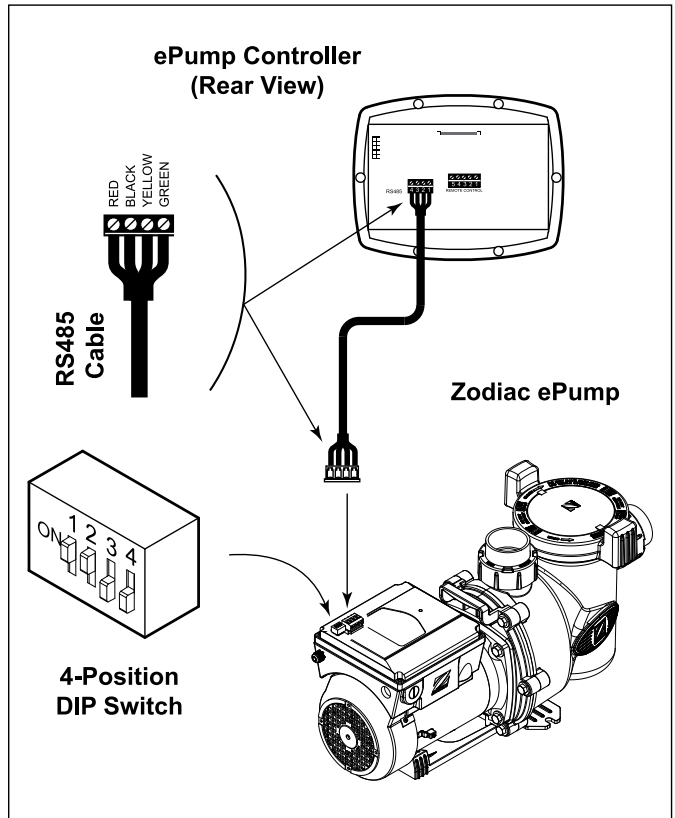


Figure 2. Wiring the ePump Controller to the ePump

To install an AquaLink® RS controller (Rev O or later) or an AquaLink® PDA (Rev 4.0 or later):

⚠ WARNING

Turn off the pump switch. Switch off the circuit breaker to the pump motor.

1. Remove the cover of the ePump drive electronics.
2. Slide dip switches 1 and 2 down, so they are in the OFF position. See Figure 3.
3. Select the desired address(es) for the ePump(s) by setting dip switches 3 and/or 4, as shown in *Section 3.3, ePump Dip Switch Settings*.
4. Connect the other end of the cable to an RS-485 connector on the AquaLink® RS (or multiplexer interface board), matching wire colors with connector positions, as described in Step 3.
5. Restore power to the ePump and verify the operation of the controller.
6. Refer to the appropriate manual to operate the pump: AquaLink® RS Owner's Manual, 6593, or AquaLink® PDA Owner's Manual, H0572300.

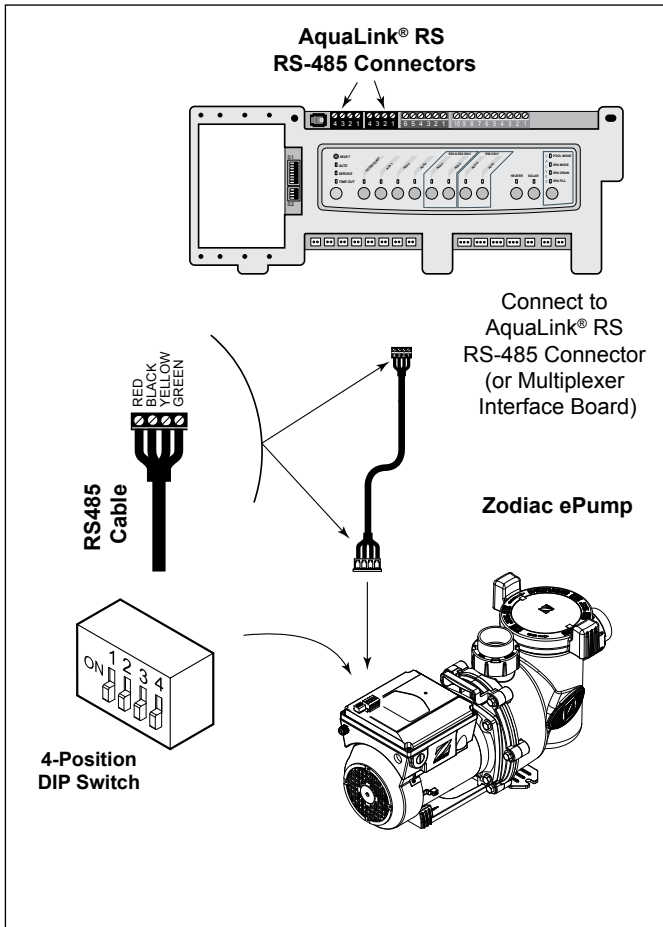


Figure 3. Wiring AquaLink® RS Controller or AquaLink® PDA to ePump

3.3 ePump Dip Switch Settings

As shown in Figures 1 and 2, the 4-position dip switch is located at the rear of the ePump. This dip switch serves two (2) functions: it selects the pump address, and it determines what type of controller will be used with the pump. The tables below show the dip switch settings.

Switch 1	Switch 2	Controller
OFF	OFF	AquaLink RS or AquaLink PDA
ON	OFF	AquaLink RS or AquaLink PDA
OFF	ON	AquaLink RS or AquaLink PDA
ON	ON	ePump Controller (WZEP-R)

Switch 3	Switch 4	Pump Address
OFF	OFF	PUMP 1
ON	OFF	PUMP 2
OFF	ON	PUMP 3
ON	ON	PUMP 4

3.4 Remove Pump Lid

1. Turn off pump.
2. Make sure that the switch to the circuit breaker that powers the pump motor is turned off.

▲ WARNING

To avoid the risk of property damage, severe personal injury, or death, turn off the pump and switch off the circuit breaker to the pump motor before beginning this procedure..

3. Make sure all necessary isolation valves are closed to prevent pool water from reaching the pump.
4. Following the markings on the locking ring, turn the ring counter-clockwise until the ‘START’ markings align with the ports.
5. Carefully remove the lid with locking ring.

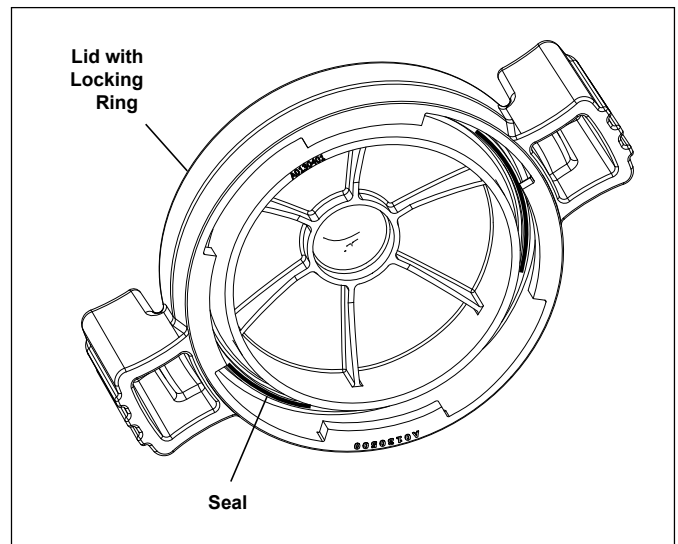


Figure 4. O-ring in Lid Assembly



3.5 Conduct Pressure Test

⚠ WARNING

When pressure testing a system with water, air is often trapped in the system during the filling process. This air will compress when the system is pressurized. Should the system fail, this trapped air can propel debris at a high speed and cause injury. Every effort to remove trapped air must be taken, including opening the bleed valve on the filter and loosening the pump basket lid while filling the pump.

⚠ WARNING

Trapped air in the system can cause the filter lid to be blown off, which can result in death, serious injury, or property damage. Be sure all air is properly purged out of the system before operating. **DO NOT USE COMPRESSED AIR TO PRESSURE TEST OR CHECK FOR LEAKS.**

⚠ WARNING

Do not pressure test above 245 kPa. Pressure testing must be done by a trained pool professional. Circulation equipment that is not tested properly might fail, which could result in severe injury or property damage.

⚠ WARNING

When pressure testing the system with water, it is very important to make sure that the pump basket lid is completely secure.

1. Fill the system with water, using care to eliminate trapped air.
2. Pressurize the system with water to no more than **245 kPa**.
3. Close the valve to trap pressurized water in the system.
4. Observe the system for leaks and/or pressure decay.

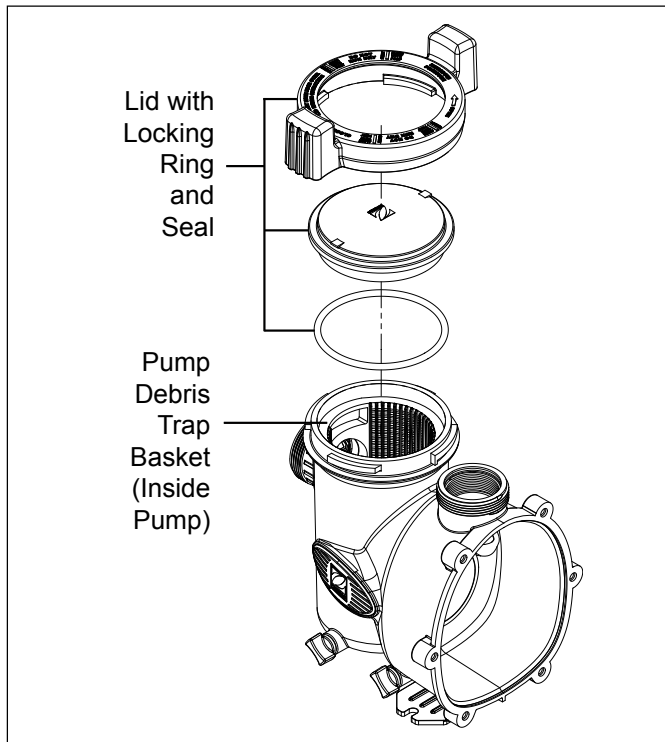


Figure 5. Exploded View of Pump

Section 4. Operation

4.1 Start-up

CAUTION

Never run the pump without water. Running the pump “dry” for any length of time can cause severe damage to both the pump and motor and will void the warranty.

If this is a new pool installation, make sure all piping is clear of construction debris and has been properly pressure tested. The filter should be checked for proper installation, verifying that all connections and clamps are secure according to the manufacturer’s recommendations.

WARNING

To avoid risk of property damage, severe personal injury or death, verify that all power is turned off before starting this procedure.

1. Release all pressure from the system and open the filter pressure release valve.
2. Depending on the location of the pump, do one of the following:
 - If the pump is located below the water level of the pool, open the filter pressure release valve to prime the pump with water.
 - If the pump is located above the water level of the pool, remove the lid and fill the basket with water before starting the pump.
3. Prior to replacing the lid, check for debris around the lid o-ring seat. Debris around the lid o-ring seat will cause air to leak into the system and will make it difficult to prime the pump.
4. **Hand-tighten** the lid to make an air tight seal. Do not use any tools to tighten the lid: **hand-tighten only**. Make sure all valves are open and the unions are tight.
5. Restore power to the pump. Then turn on the pump by following the instructions in the appropriate manual: ePump Controller Owner’s manual, H0352000, AquaLink® RS Owner’s Manual, 6593, or AquaLink® PDA Owner’s Manual, H0572300.
6. Once all the air has left the filter, close the pressure release valve.
7. The pump should prime. The time it takes to prime will depend on the elevation and length of pipe used on the suction supply pipe. See Section 3.1.3.3, Installation Recommendations, for proper elevation and pipe size.
8. If the pump does not prime and all the instructions to this point have been followed, check for a suction leak. If there is no leak, repeat Steps 2 through 7.
9. For technical assistance, call Zodiac Technical Support at 1800 688 552.



Section 5. Service and Maintenance

5.1 Routine Maintenance

WARNING

To avoid risk of property damage, severe personal injury or death, verify that all power is turned off before starting this procedure.

Inspect the pump debris tray basket for debris by looking through the clear pump lid. Remove any debris, because as debris accumulates, it will begin to block the flow of water through the pump. Keep the basket clean to improve the performance of the pump.

1. Turn off the power to the pump. If the pump is located below the water level, close the isolation valves on the suction and discharge sides of the pump to prevent backflow of water.
2. Turn the lid's locking ring counter-clockwise until 'START' aligns with the ports. Carefully remove the lid. (You may use a tool for leverage.)

CAUTION

A misaligned basket will cause the lid to be improperly seated, allowing an air leak, which could result in pump damage.

3. Lift the basket out of the pump.
4. Dispose of the debris and thoroughly clean the basket, making sure all the holes are open. Using a garden hose, spray the basket from the outside to

help clear the holes. Remove any remaining debris by hand.

5. Replace the basket in the pump by aligning the opening with the suction pipe. If aligned properly, the basket will drop easily into place. **Do not force it into place.**
6. Remove the lid seal and remove debris around the lid seal seat, as this can allow air to leak into the system. Clean the lid seal and place it on the lid.
7. Replace the lid with locking ring. **Hand-tighten** the lid to make an air-tight seal. Do not use any tools to tighten the lid: **hand-tighten only.**
8. Verify that all valves have been returned to the proper position for normal operation.
9. Open the pressure release valve on the filter, and make sure it is clean and ready for operation.
10. Turn on the power to the pump. Once all the air has been evacuated from the filter, close the pressure release valve.

Section 6. Troubleshooting and Repair

Zodiac Group Australia Pty Ltd strongly recommends that you call a qualified service technician to perform any repairs on the filter/pump system. To locate a qualified technician, visit www.zodiac.com.au and click on “Pool Maintenance – Zodiac Product Support.”

6.1 Troubleshooting

Symptom	Possible Cause/Solution
The cleaning/circulating system is not operating correctly.	<p>Verify that skimmer baskets, pump basket and other screens are clean. Clean as necessary.</p> <p>Check filter and clean as necessary.</p> <p>Check valve positions. Adjust as necessary.</p> <p>NOTE Multiple pieces of equipment operating at one time (for example, waterfalls, spa jets, and surface returns) will affect the proper operation of the cleaning system.</p> <p>Check the cleaning system manual to ensure that the system is adjusted according to the manufacturer's recommendations.</p>
Bubbles are present in the pump basket.	<p>Air is in the system. Check the pool or spa water level to ensure that it is at the proper level and air is not being drawn into the suction piping. If the water is at the normal level, turn off the pump. Turn the lid's locking ring counter-clockwise until 'START' aligns with the ports. Remove the lid and check for debris around the lid seal seat OR improper installation of the lid seal, as either condition will allow air to leak into the system. Clean the lid seal and replace it on the lid. Replace the lid on the pump housing. Align 'START' with the ports and turn the locking ring clockwise until 'LOCKED' aligns with the ports. Hand-tighten the lid to make an air-tight seal. Do not use any tools to tighten the lid. Turn the pump back on.</p>
Air leaks are still present.	<p>Check the suction side piping union. While the pump is running, try to tighten the union. If this does not stop the air leak, turn off the pump. Loosen both unions and slide the pump out of the way. Remove, clean, and re-install both union o-rings.</p> <p>Reposition the pump next to the piping and secure the union nuts to the pump. With clean union o-rings, hand-tightening of the unions should create a seal. If the unions still do not seal, gently tighten with a large pair of tongue-and-groove pliers. Do not over-tighten.</p>
There is no air in the system, but the pressure is still low.	<p>It is possible that debris is caught in the pump impeller. The pump impeller moves the water, and the vanes in the impeller can become blocked with debris. See <i>Section 6.2, Service Technician Maintenance, 6.2.1, Blocked Impeller</i>, in this manual for more information.</p>
There is no debris blocking the impeller and the pressure is still low.	<p>The pump impeller and diffuser are showing signs of normal wear. Have a qualified service technician check the impeller and diffuser and replace as necessary.</p> <p>If the pump is part of a relatively new installation, it could be an electrical problem. Contact a qualified service technician. Have the technician check for loose electrical connections and check the voltage at the pump motor while it is in operation. The voltage must be within 10% of the motor's data plate rating. If the voltage is not within 10%, contact a qualified electrician and/or the local power service provider.</p> <p>Pump seal is leaking air. Have a qualified service technician replace the seal.</p>
The pump is leaking water between the motor and pump body.	<p>This is caused by a damaged or failed mechanical seal. Replace the seal. See <i>Section 6.2, Service Technician Maintenance, 6.2.3, Mechanical Seal Replacement</i>, in this manual.</p>
The pump gets hot and shuts off periodically.	<p>Make sure that there is adequate room around the motor to circulate air and keep the motor cool. Have a qualified electrician check for loose connections and check the voltage at the pump motor while it is in operation. The voltage must be within 10% of the motor's data plate rating. If the voltage is not within 10%, contact a qualified electrician and/or the local power service provider.</p>



Symptom	Possible Cause/Solution
Pump will not start.	<p>No power to pump.</p> <p>Make sure pump is properly connected to high voltage. LED on top of electronics enclosure should be illuminated. See <i>Section 3.2, Electrical Installation</i>, in this manual.</p> <p>Improper low-voltage wiring.</p> <p>Check low-voltage wiring between pump and controller. Correct if necessary. See <i>Section 3.2, Electrical Installation</i>, in this manual.</p> <p>Improper pump address setting.</p> <p>Make sure that ePump dip switches 3 and 4 are set properly for the installation. Both should be OFF for use with ePump controller or set to the proper address when connected to an AquaLink® RS controller or an AquaLink® PDA. See <i>Section 3.3, ePump Dip Switch Settings</i>, in this manual.</p> <p>Fault condition exists.</p> <p>View fault message on controller and correct fault before proceeding. If unsure how to correct fault, contact technical support at 1800.688 552.</p>
ePump controller LCD is not displaying information or ePump LEDs are not illuminated.	<p>Incorrect dip switch setting.</p> <p>Make sure ePump dip switches 1 and 2 are both ON. See <i>Section 3.3, ePump Dip Switch Settings</i>, in this manual.</p> <p>Improper low-voltage wiring.</p> <p>Check low-voltage wiring between pump and controller. Correct if necessary. See <i>Section 3.2, Electrical Installation</i>, in this manual.</p>
Controller displays "Pump not connected".	<p>Improper low-voltage wiring.</p> <p>Check low-voltage wiring between pump and controller. Correct if necessary. See <i>Section 3.2, Electrical Installation</i>, in this manual.</p> <p>Improper pump address set.</p> <p>Ensure ePump dip switches 3 and 4 are set properly for the installation. Both should be OFF for use with ePump controller or set to the proper address when connected to an AquaLink® RS controller or an AquaLink® PDA. See <i>Section 3.3, ePump Dip Switch Settings</i>, in this manual.</p>
Fault message appears on controller display.	<p>Fault condition exists.</p> <p>View fault message on controller and correct fault before proceeding. If unsure how to correct fault, contact technical support at 1800.688 552.</p>

6.2 Service Technician Maintenance

⚠ WARNING

This pump must be serviced by a professional service technician qualified in pool/spa installation. The following procedures must be followed exactly. Improper installation and/or operation can create dangerous electrical hazards, which can cause high voltages to run through the electrical system. This can cause property damage, serious personal injury, and/or death. Improper installation and/or operation will void the warranty.

6.2.1 Blocked Impeller

⚠ WARNING

Before servicing the pump, turn off the pump and switch off the circuit breaker to the pump motor. Severe personal injury or death may occur if the pump starts while your hand is inside the pump.

1. Turn off the pump. Switch off the circuit breaker to the pump motor.
2. Remove the lid and basket.
3. Look inside the pump for debris. Remove any debris found inside.
4. Replace the basket and lid.
5. Switch on the circuit breaker to the pump motor.
6. Turn on the pump, and see if the problem is solved.
7. If the impeller is still blocked with debris and it is not possible to remove the debris using Steps 2 through 4, the pump will need to be disassembled in order to access the inlet and outlet of the impeller.

6.2.2 Impeller Removal and Replacement

⚠ WARNING

Before servicing the pump, turn off the pump and switch off the circuit breaker to the pump motor. Severe personal injury or death may occur if the pump starts while your hand is inside the pump.

1. Turn off the pump. Switch off the circuit breaker to the pump motor. If you are not replacing the motor, do not disconnect the electrical wiring.

NOTE If you are replacing the motor, Zodiac Group Australia Pty Ltd. strongly recommends that a qualified service technician or electrician properly disconnect the electrical wiring at the pump motor.

2. Turn off any valves to prevent pool water from reaching the pump. Drain the water from the pump by loosening the unions or removing the drain plugs.
3. Using a 9/16" wrench, loosen the bolts connecting the pump body to the motor backplate. See Figure 6.

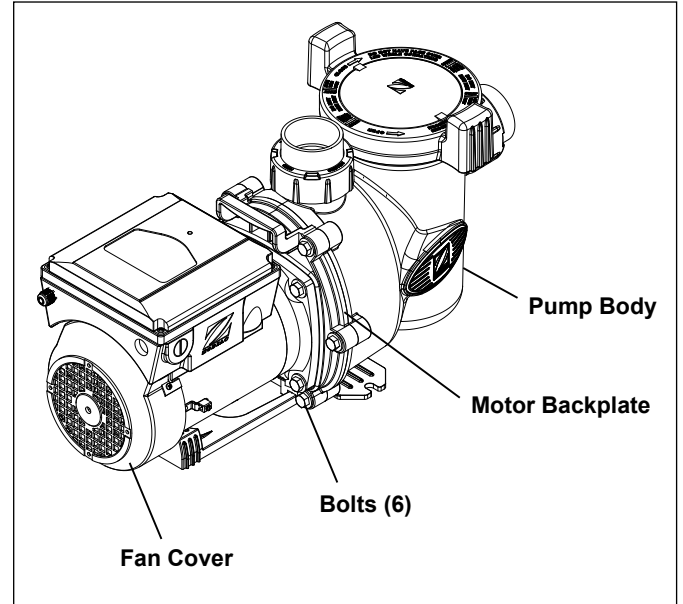


Figure 6. Remove the Pump Housing

4. Pull the motor and backplate out of the pump body. Remove the pump body o-ring. The impeller is connected to the motor shaft.
5. Using a No. 1 Phillips screwdriver, remove the two (2) screws holding the diffuser. (The diffuser is the cover over the impeller.) Then remove the diffuser (See Figure 7).
6. Access the inlet and outlet of the impeller and remove any debris.

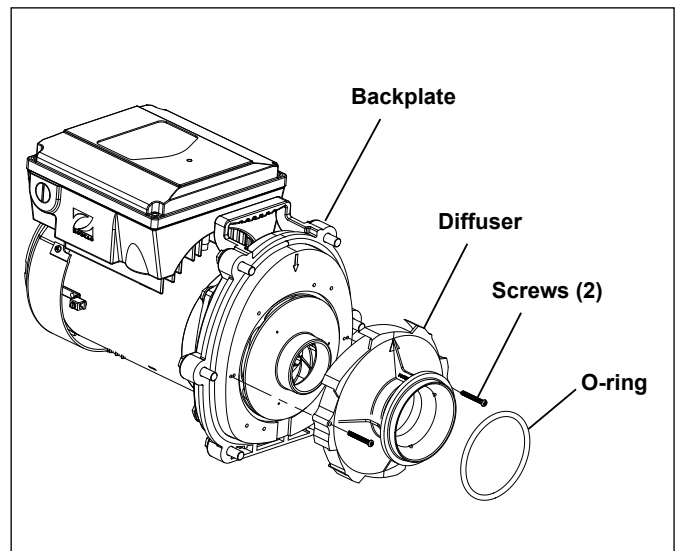


Figure 7. Remove the Diffuser

7. Hold the motor shaft with a ¼" hex allen wrench while unscrewing the impeller from the motor shaft with your hand. Turn the impeller counter-clockwise to unscrew it.
8. Inspect the impeller and diffuser for signs of rubbing and/or damage.

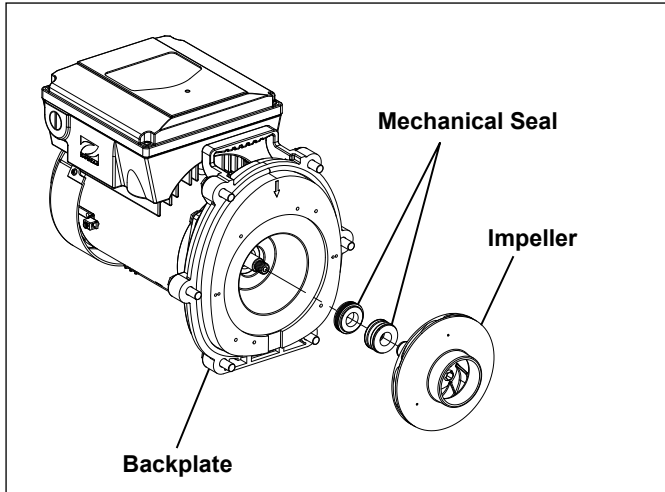


Figure 8. Remove the Impeller

6.2.2.1 Impeller Reassembly

1. Press the new carbon face seal half (see Figure 10) on the motor shaft using a twisting motion. Make sure the carbon surface is facing toward the ceramic ring in the backplate.

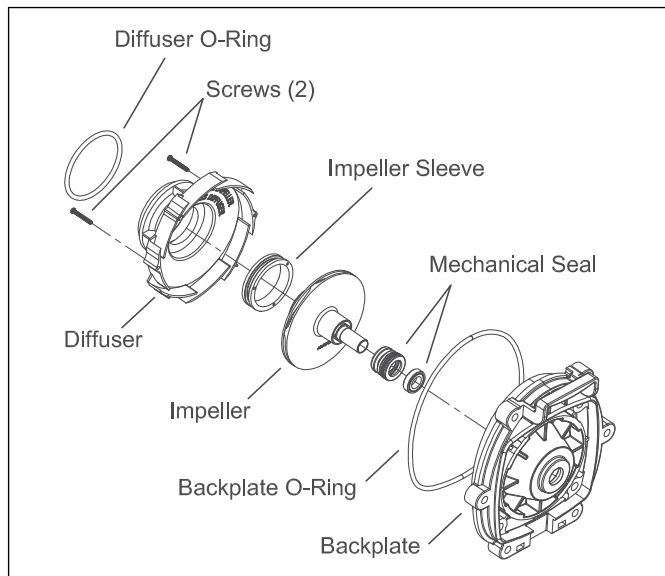


Figure 9. Diffuser and Impeller Exploded View

CAUTION

Very Important! To prevent damage to the seal, grasp the lower portion of the seal (opposite the carbon face) when installing it.

NOTE To assist assembly, use **only** water or soapy water as a lubricant. Any other lubricant will destroy the seal after a short period of time.

NOTE Be sure to keep the seal and mating parts clean.

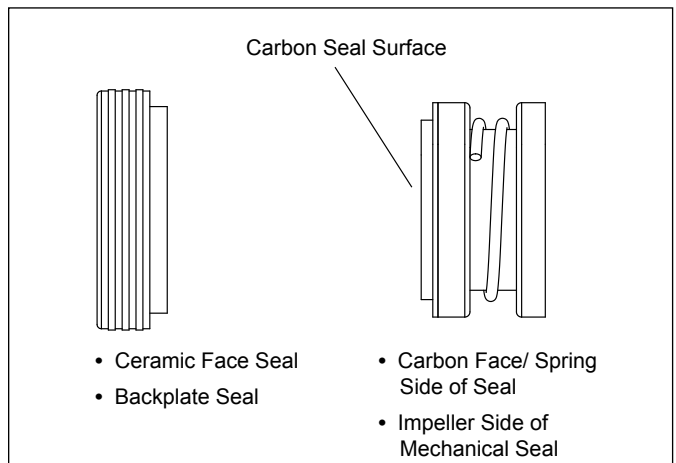


Figure 10. Mechanical Seal

2. While holding the motor shaft with a ¼" hex allen wrench, thread the impeller onto the motor shaft. Hand-tighten the impeller until it is secure. **Do not overtighten.**
3. Replace the fan cover by replacing the screws.
4. Replace the diffuser over the impeller, using care to insert alignment pins into the correct holes. The molded-in arrow must point toward the handle of the backplate.
5. Replace the two (2) small Phillips-head screws. Tighten the screws to draw the diffuser against the motor backplate. Install the impeller sleeve on the impeller.
6. To help prevent an airleak into the system, make sure the diffuser o-ring, o-ring groove, and o-ring seal area are clean and free of debris. If you removed the diffuser o-ring, make sure you install it into the groove you removed it from. (See Figure 11). If grease is used to retain the o-ring, it **must** be silicone based. **Do not use petroleum-based grease.** It will destroy the o-ring.
7. Slide the diffuser into the mating hole in the pump body. While supporting the motor, start two (2) screws on opposite sides. (This will hold the motor in position while you start the other four (4) screws.)

8. Tighten the screws lightly in a crossing “X” pattern using a 9/16" wrench. Start with the inner (middle) two (2), then the outer (top and bottom) four (4) to draw the backplate to the body in an even manner. Once all the screws are snug, torque in the same order to 27 Nm.

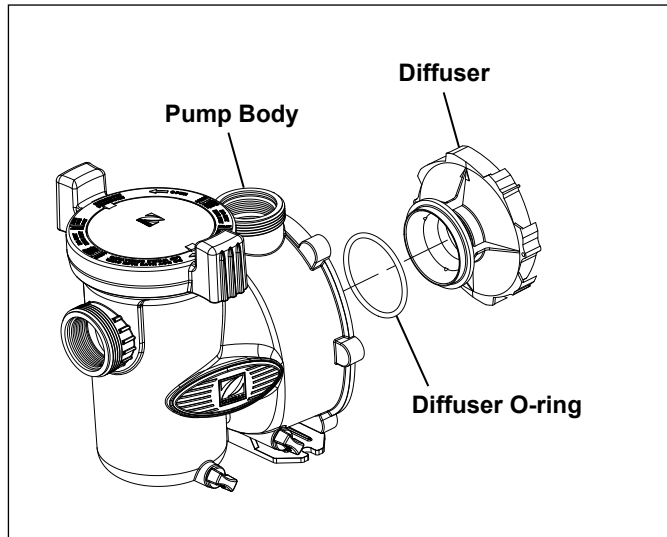


Figure 11. Pump Body and Diffuser Exploded View

9. If the pump is located above the water level of the pool, remove the lid and fill the basket with water before starting the pump.
10. To help prevent an air leak into the system, remove any debris around the lid seal seat.
11. **Hand-tighten** the lid to make an air tight seal. **Do not use any tools to tighten the lid.**
12. Open the pressure release valve on the filter and make sure it is clean and ready for operation.
13. Switch on the circuit breaker to the pump motor.
14. Turn on the pump and check the system for normal operation.
15. Once all the air has left the filter, close the pressure release valve.

6.2.3 Mechanical Seal Replacement

NOTE This is a two-part replacement process. **The mechanical seal must be replaced as a set.**

NOTE Refer to Figure 12 for an illustration of the location of the mechanical seal and impeller.

CAUTION

Do not damage the ceramic or carbon surfaces of the seals. If the surfaces are damaged, leaks will occur.

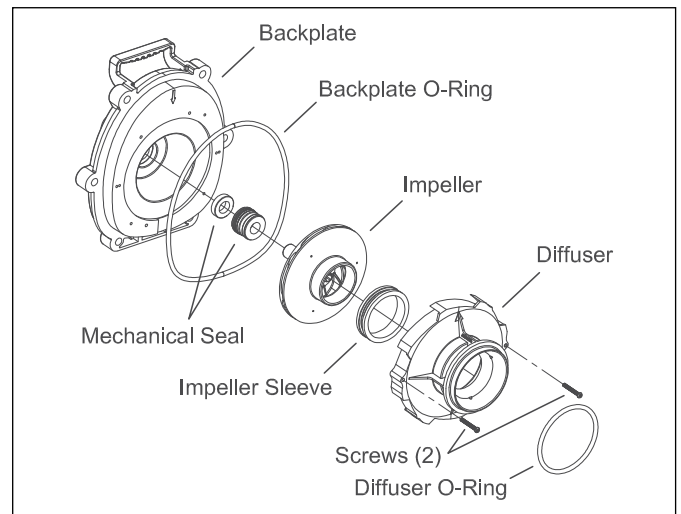


Figure 12. Backplate, Impeller, Diffuser, Mechanical Seal Exploded View

1. To access the mechanical seal, see Section 6.2.2, Impeller Removal and Replacement.
2. Remove the carbon face seal half from the motor shaft (See Figure 12). This is a spring-loaded seal. Grasp the portion of the seal closest to the impeller body and pull the seal off, using a twisting motion.
3. Remove the motor from the backplate, following the steps in Section 6.2.4, Motor Replacement.
4. Place the backplate o-ring side down and force the ceramic seal out using a screwdriver or drift.
5. Turn the backplate o-ring side up and insert the new ceramic seal side into the backplate. Use great care to press the seal in squarely with your fingers. The ceramic is easily damaged and must be pressed in using only your fingers or soft tools. Do not use any lubricant other than water or soapy water.
6. Install the backplate by following the relevant steps in Section 6.2.2.1, Impeller Reassembly.
7. Install the motor by following the steps in Section 6.2.4, Motor Replacement.



6.2.4 Motor Replacement

CAUTION

To ensure continued safety and reliable operation, Zodiac Group Australia Pty Ltd requires that you replace the motor with a motor that has the identical HP rating and service factor (Zodiac Group Australia Pty Ltd approved only).

WARNING

To avoid the risk of property damage, severe personal injury, or death, turn off the pump and switch off the circuit breaker to the pump motor before beginning this procedure. Wait five (5) minutes after power is disconnected before opening motor. Do not proceed until the LED on top of the Drive Electronics Unit is completely off.

1. To detach the pump housing from the motor, see Section 6.2.2, Impeller Removal and Replacement.
2. Note the alignment of the backplate to the motor, as shown in Figure 13 . Place the backplate motor assembly o-ring side down, unscrew the four 9/16" screws, and remove the motor.
3. If installing a new motor, remove the protective plastic cap from the motor shaft. Place the motor on the backplate so that the opening in the motor faces the bottom of the backplate. The electronics controller on the motor should be at the 12 o'clock position.
4. Replace the four (4) bolts and washers holding the backplate to the motor and torque to 21 Nm. See Figure 13 .
5. To reassemble the backplate assembly to the housing, see Section 6.2.2.1, Impeller Reassembly.
6. If the pump is located above the water level of the pool, remove the lid and fill the basket with water before starting the pump.
7. To help prevent an air leak into the system, remove any debris around the lid seal seat.
8. **Hand-tighten** the lid to make an air tight seal. **Do not use any tools to tighten the lid.**
9. Open the pressure release valve on the filter and make sure it is clean and ready for operation.
10. Have a qualified service technician or electrician properly connect the electrical wiring at the pump motor.

11. Turn on the electrical power to the pump motor using your controller and check the system for normal operation.

NOTE For instructions on operating the controller, refer to the appropriate manual for your controller: the ePump Controller Owner's Manual, H0311200, the AquaLink® RS Owner's Manual, 6593, or the AquaLink® PDA Owner's Manual, H0572300.

12. Once all the air has left the filter, close the pressure relief valve.

NOTE Zodiac Group Australia Pty Ltd recommends that the mechanical seals be replaced at the same time the motor is replaced. See Section 6.2.3, Mechanical Seal Replacement, for details.

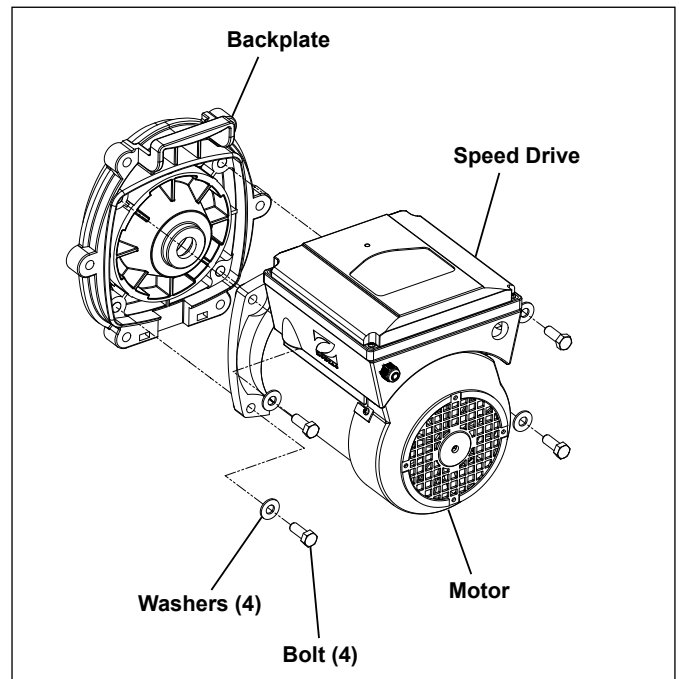


Figure 13. Backplate Assembly



Section 7. Product Specifications and Technical Data

7.1 Replacement Parts List and Exploded View

To order or purchase parts for Zodiac pumps, contact your nearest Zodiac dealer. If the Zodiac dealer cannot supply you with what you need, contact Zodiac customer service at 1800 688 552, or send an email message to apac.aftersales@zmp-zodiac.com

Key No.	Description	Model No.	Part No.
1	MOTOR, WZEP SERIES, R-KIT	All	R05192
2	Backplate, Pump, Replacement Kit	All	W0479500
3	Impeller, Assembly	All	W0479603A
4	Diffuser with O-ring and Hardware	All	W0479701A
5	Mechanical Seal, Carbon and Ceramic (1 Set)	All	W0479400
6	Body, Pump	All	W0479800A
7	Motor Mounting Foot Assembly	All	WA0133001
8	Locking Ring (With Lid and O-ring)	All	W0480000
9	Filter Basket	All	WA0130900
10	Plug, Drain (Set of 2)	All	W0446000A
11	Tail Piece, O-ring and Union Nut	All	W0327301
12	O-ring, Lid	All	WS0137200
13	O-ring, Backplate	All	WS0137300
14	O-ring, Tail Piece	All	WS0104900
15	Diffuser/Impeller Hardware Set	All	W0480400
16	Backplate Hardware with Set of 6 Bolts and Washers	All	W0480500
17	Motor Hardware with Set of 4 Bolts and Washers	All	W0446700
18	Cover, Junction Box, Motor, WZEP	All	R05298
19	Cover, Fan, WZEP, R-Kit	All	R05157
20	Hardware, Speed Drive, WZEP, R-Kit	All	R05159
21	Connector, Speed Drive, ePump (4-Pin Connector)	All	R06609
22	Impeller Sleeve	All	WA01623

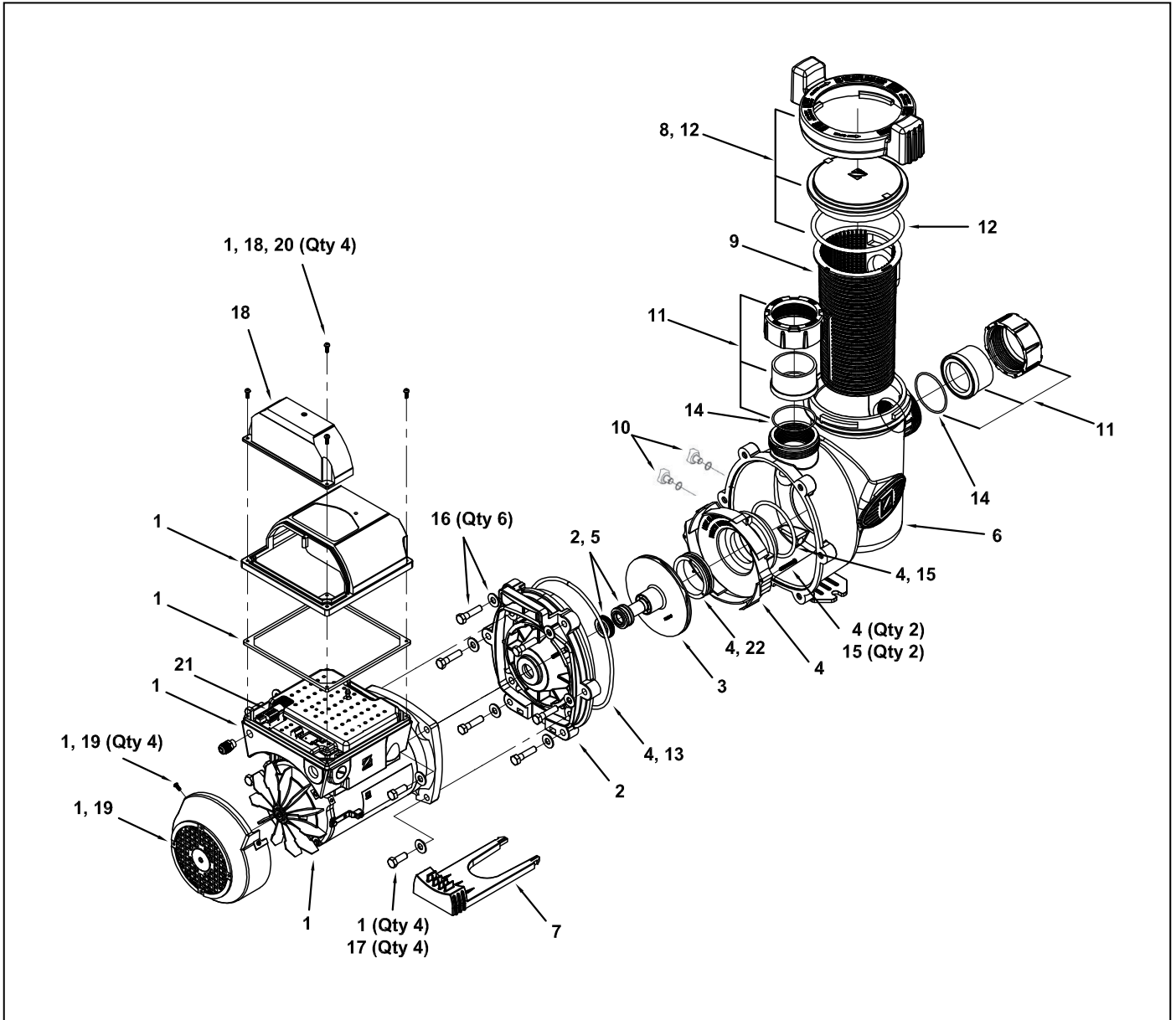
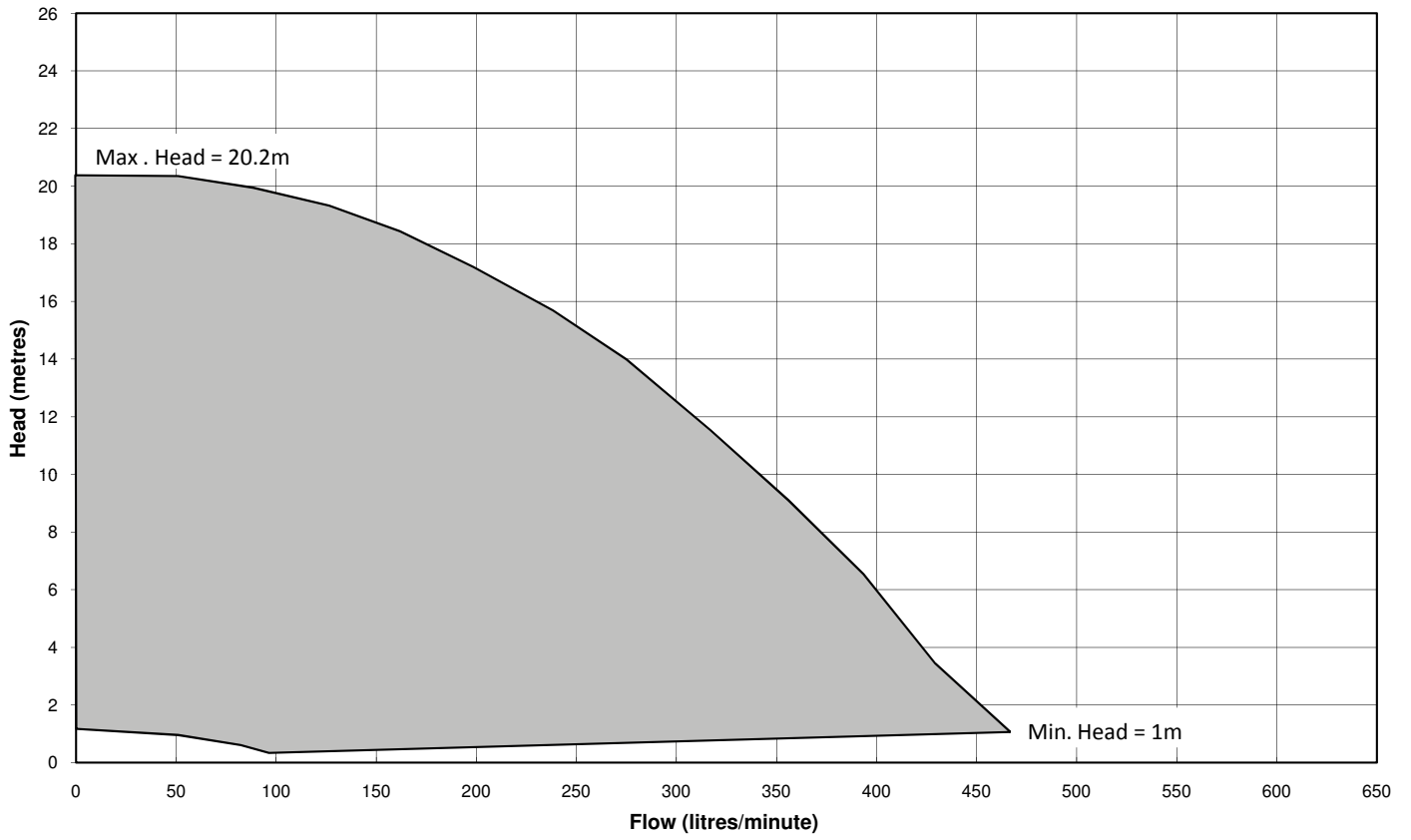


Figure I4. WZEP ePump Exploded View



7.2 Performance Curves



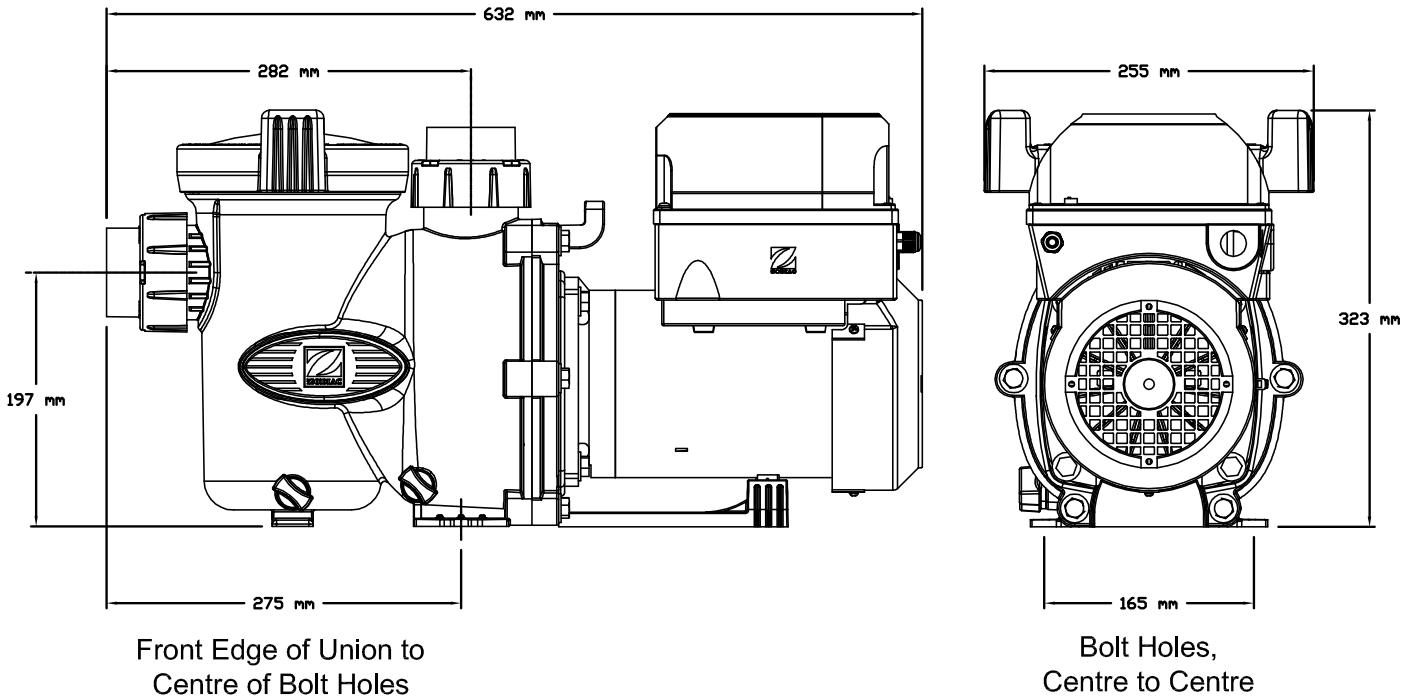


7.3 Physical and Operational Specifications

7.3.1 Specifications

Model No.	HP	Electrical Specifications	Ingress Protection Rating	Max. Operating Water Temp.	Pipe Size	Carton Weight	Overall Length
WZEP1.5	0.25 - 1.5	1200W max @ 230VAC 50Hz	IP25	35degC	40-50mm	19kg	632mm

7.3.2 Dimensions



NOTE When installing a pump, leave a minimum of 600mm of clearance above the pump for removal of the strainer basket.

7.4 Replacement Motor Guide

Pump Model	Zodiac
ePump	WZEP1.5

Zodiac FloPro ePump Warranty

This Zodiac FloPro ePump was carefully inspected before shipment from our warehouse. Upon unpacking, if any part is missing or found to be defective, please notify your dealer immediately.

Zodiac Group Australia Pty Ltd warrants the FloPro Series pool pump to be free from defects in materials and workmanship for a period of 3 years from date of purchase for domestic applications. The warranty is applicable to the Asia Pacific region only.

This limited warranty excludes the following:

- 1) Replacement of parts which fail or become defective as a result of improper installation, negligence, misuse, abuse or tampering by unauthorised personnel
- 2) Lightning or other acts of nature
- 3) Damage or malfunction of the unit resulting from improper water chemistry balance
- 4) Scaling, freezing, or other conditions causing inadequate water circulation
- 5) Normal wear and tear
- 6) Inadequate ventilation
- 7) Running the pump dry
- 8) The use of non-factory authorised parts or accessories in conjunction with the product(s)
- 9) Operating the product(s) at water flow rates outside the published minimum and maximum specifications.

To obtain warranty replacement or repair, the unit should be returned to the place of purchase. When submitting a claim, always supply serial number, evidence of purchase date, retailer and brief description of the problem / defects encountered. Zodiac Group Australia Pty Ltd reserves the right to repair or replace all defective or worn parts covered by this warranty, through the place of purchase. Where the purchaser sends the units to the place of purchase by post or courier for repair or replacement, freight is the responsibility of the purchaser.

Zodiac and/or its authorised service centres may seek reimbursements of any costs incurred by them (including labour charges) when the product or relevant part is found to be in good working order or if the warranty claim is invalid.

Zodiac Group Australia Pty Ltd assumes no responsibility for any warranties or representations made by other individuals or businesses beyond the express terms contained in this limited warranty.

The warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty will remain the property of Zodiac Group Australia Pty Ltd.

Commercial Applications

The Zodiac FloPro ePump is warranted for a period of 12 months for all parts from the date of the first consumer purchase. Should any parts fail as a result of such defects within the 12 month period, Zodiac will warrant it free of charge. Any associated travel charges are not included.



Rainbow Pool Products

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