

Installation Manual – Grid Tie Pool Pump



IMPROPER INSTALLATION WILL DAMAGE THE PUMP AND VOID THE WARRANTY
PLEASE READ AND SAVE THIS MANUAL

RECORD MODEL # _____ - _____ SERIAL # _____

This manual covers the Wright Morgan Grid Tie Pool Pump – WM-98529.



Wright Morgan Grid Tie Pool Pump – WM-98529



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1. WARNINGS

Please review the following warnings. These are listed for both personal safety and the safety of the products. Disregarding or ignoring these warnings can result in **SERIOUS INJURY** and/or **VOID THE WARRANTY**. If this system is being installed without a licensed pump installer, an electrician or knowledge of electrical circuits is **HIGHLY** recommended.

If any questions or concerns regarding these warnings should arise, please contact Wright Morgan directly at sales@wrightmorgan.com. Wright Morgan pumps and/or its parent company, Solar Power & Pump Co, is **NOT LIABLE** for any **DAMAGE** or **INJURY**.

- The system should be installed and serviced by qualified personnel only. All electrical codes should be observed. Make **ABSOLUTELY CERTAIN** all power sources are disconnected prior to wiring.
- Extreme heat can damage the pump. Protect the pump from sunlight or other heat sources.
- Install proper system grounding for safety and lightning protection. Proper grounding can significantly reduce the chance of extreme damage. See Section 4.4 Grounding and Lightning Protection
- Under-sizing the wires or failing to install a fuse or circuit breaker can cause a Fire Hazard and cause damage to the motor. Follow all guidelines in Section 4
- Do not run the pump dry.

2. INSTALLATION REQUIREMENTS

Non-submersible pumps - Do not submerge pump or motor in water. Do not allow water to drip on the motor. Protect the pump and motor from sunshine. If the pump is installed outdoors, supply weather protection, such as a sheet-metal shield, shed or well house.

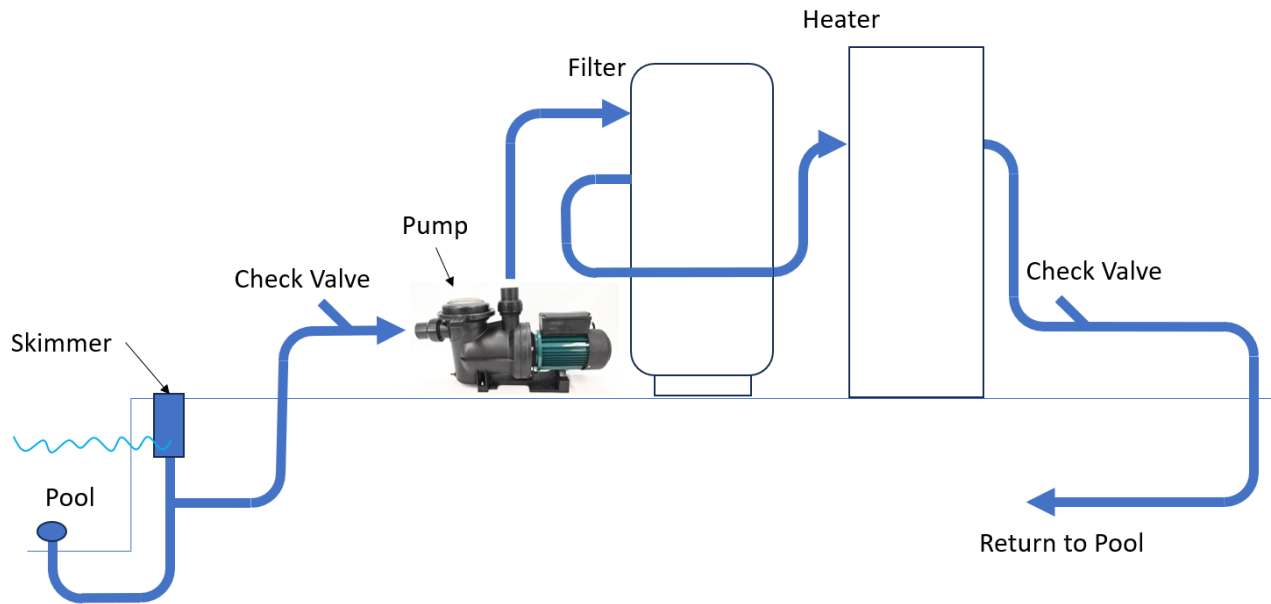
Filtration requirements – The Grid Tie Pool Pump comes with an integrated basket strainer to filter large debris. The clear cover allows for easy inspection and the included wrench makes removing the basket simple and easy. Depending on the conditions around your pool, it is recommended that the strainer be checked 2-3 times weekly if there are leaves and debris in the area. Else, a weekly inspection should suffice.

It is important that the clear cover and be re-installed completely air tight. In most cases the right amount of torque cannot be applied by hand, which is why the wrench is included. Do not overtighten with the wrench. Simply tighten the nut with greater force than you could be hand.

Pump must not run dry - Water is the lubricant for the pump. If the pump runs completely dry, it will overheat and fail.



3. PLUMBING SYSTEM DESIGN



Reference System Diagram

Minimize Suction Lift – Suction lift refers to the pressure (negative pressure) on the suction (inlet) side of the pump. As the vertical distance from the pump inlet to water increases, the suction lift pressure also increases. The practical suction/intake pipe limit for any pump is 20 vertical feet to water at sea level (subtract 1 ft. for every 1000 ft. of elevation). Limiting the pipe length to 2 to 3 feet and avoid any 90° fittings when possible will allow the pump to run quietly and more efficiently. Placing the pump downhill or level from the water source also helps to minimize suction lift.

Intake Pipe – Keep the intake pipe distances as short as possible. Do not use thin-wall hose or soft tubing on the pump's intake. It may collapse under suction and restrict the flow. Polyethylene pipe (black flexible Polypipe) can be prone to slight leakage at the fittings, ensure all connections are watertight.

Increase pipe size as the distance from the water source increases. Use pipe reducer fittings to adapt the pump's inlet or outlet to a larger pipe size where necessary.

The intake pipe must not be obstructed or restricted by undersized pipe, excessive suction lift, or a clogged filter.

Avoid humps in the intake line that can trap air pockets and block the flow. Ensure the intake pipe is free of leaks.

Priming the Pump – The Wright Morgan Grid Tie Pool Pump self-priming, so long as the pump body is filled with water before first use. In most instances the pump should be installed at a level such that the water naturally flows to the pump. If this is not the case, simply unscrew the strainer cover and fill the pump with water.



Pipe Unions are required and supplied with this pump. Unions make pump replacement easy, without the need to cut and re-solder or re-glue the pipe.

Mounting the Pump – The pump must be mounted horizontally on a solid, rigid surface, using the attached mounting feet. Pool Pump will vibrate slightly under normal operation so it is important that the pump is rigidly mounted to avoid loosening the piping connections. If the vibration causes excess noise but the pump is operating normally (without cavitation), it is recommended to isolate the pump mount from the pump house with a layer of rubber dampening material.

Freeze Protection – Take every precaution to prevent the pump from freezing. The pump head will survive most light freezes, but a hard freeze may damage it. If the pump is insulated for freeze protection, keep the motor exposed to prevent overheating.



4. ELECTRICAL WIRING

The Wright Morgan Grid Tie Jet Pump comes with a standard 110V AC 3-prong cable attached. Simply plug the cable into a minimum 15 amp 110V outlet to power the pump.

5. TROUBLESHOOTING

Motor Doesn't Turn On

1. Check fuse or breaker and any control or wiring devices in line.

Pump Spins But Does Not Pump Water

1. Check direction of rotation - If not clockwise (viewed from front-end) reverse the inlet and outlet hoses.
2. Check Prime - Open priming plug or valve and re-prime the pump. Check all the fittings, a pinhole leak in the suction pipe will cause loss of prime. Inspect, pressure-test, clean or replace the foot valve. Ensure no debris is trapped in foot valve.
3. Polyethylene Pipe Fittings – Ensure fittings are tight. Gently heat with torch or hot water and retighten hose clamp with a wrench. Replace stripped clamps. Use stainless steel clamps.

Pump Spinning, No output Pressure – Indicates loss of prime. Check for any or a combination of the following:

1. High suction lift - mount pump as close to reservoir as possible.
2. Undersized suction pipe.
3. Clogged filter - Fiber filter cartridges may be clogged and look clean (fine silt is in the fibers).
4. Soft, flexible hose on intake line may be crushed or kinked by suction - replace with rigid pipe material.
5. Check for bubbles in inline (transparent) filter or air in outlet water.
6. Check prime. Open priming plug or valve and re-prime the pump. Check all fittings, a pinhole leak in the suction pipe will cause loss of prime. Inspect, pressure-test, clean or replace the foot valve. Ensure no debris is trapped in foot valve.
7. Some inline filters may have a red push-button valve to release pressure for maintenance. If the filter is incorrectly installed (too high above the water source) the suction may pull the valve open and introduce air. To prevent this, seal the push-button with silicone sealant or epoxy, or replace the button with a bolt and nut, sealed with silicon and tightened down.
8. If no source of air leakage is present, water may have high concentrations of dissolved gases which release as bubbles in the suction pipe. Reduce suction lift if possible. Install an air chamber in intake line, with a valve on top. Pour water in to replace air when problem reappears.
9. Turning filter to a horizontal position will move the bubbles out of the flow path of the water. Do not turn the filter upside down, as this could induce dirt into the pump during filter change.
10. Impeller damaged/worn out – replace impeller.



Low Flow Rate / Pump Turns Fast and Draws Low Current – Pump is worn out from dirt, rust or other abrasive particles in water, or from cavitation, from running dry or age.

Low Flow Rate / Pump Turns Slowly and Draws High Current (may run hot and/or blow fuses) / Pump is Difficult to Turn

1. Excessive vertical lift, beyond the system's capacity
2. Mineral Deposits - Turn shaft with two fingers. If difficult to turn, use vinegar to dissolve the mineral deposits in the plumbing. Remove pipes from the pump and allow solution to circulate through the pump by turning it backwards. Replace or rebuild the pump if deposits cannot be removed.

Low Flow Rate / Pump turns Slow, Motor Cool

1. Voltage at motor measures lower than voltage at source. Power wire is undersized. Consult wire size chart.

Pump Emits Crunching Sounds, Black Material in Outlet – Internal parts are broken, either by debris in pump, severe freezing or external shock.

Pump Frozen by Low Temperature / Blown fuse or circuit breaker tripped – Allow the pump to thaw. Observe performance. If the motor is damaged, replace or rebuild. Check all plumbing for damage and leaks and protect from future freezing.

6. MAINTENANCE

Strainer Basket – When a Strainer Basket is becoming clogged the pump will emit an increasingly loud buzzing noise (cavitation). Using the supplied spanner wrench, unscrew the Lid Lock Ring, remove the basket and clean it thoroughly, and reinstall. Tighten the Lid Lock Ring by hand, and then use the spanner wrench to tighten the ring less than an additional quarter turn. **DO NOT OVERTIGHTEN!** The included spanner wrench is designed without a long handle specifically to prevent overtightening the Lid Lock Ring, which should be slightly tighter than hand tight when properly seated.



7. PUMP REPAIRS

FAILURES

Pump Head – The pump head is user repairable with the proper maintenance kit and tools. Visit www.wrightmorgan.com for available kits and instructional videos on maintenance and repair.

WARRANTY CLAIMS must include receipt to prove date of purchase.

TO SHIP PUMP TO WRIGHT MORGAN FOR REPAIR:

Please contact Wright Morgan to set up a repair and receive an RMA number

Email: sales@wrightmorgan.com

Have the MODEL & SERIAL NUMBERS available before initiating a return for repair.

WARRANTY

Wright Morgan products are warranted to be free from defects in material and workmanship for ONE (1) YEAR from date of purchase.

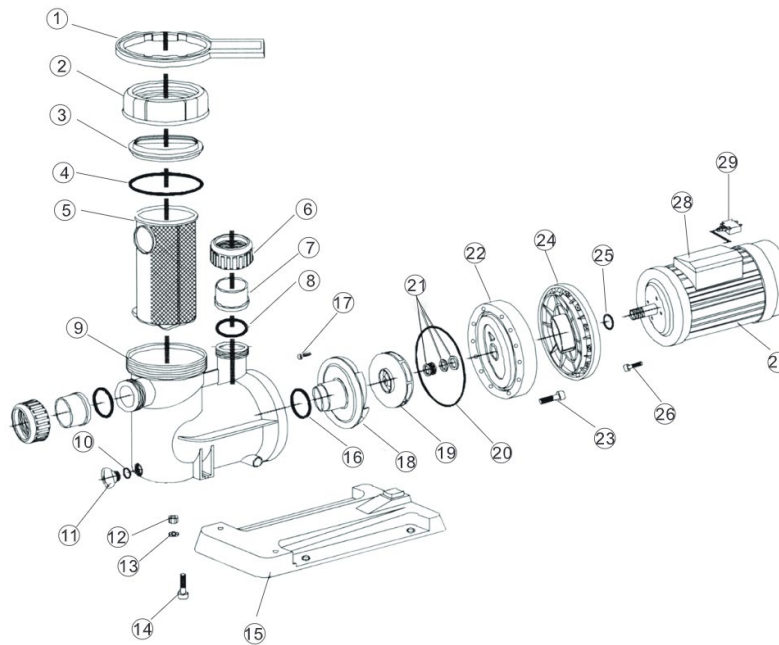
Failure to provide correct installation, operation, or care for the product, in accordance with instructions, will void the warranty.

Product liability, except where mandated by law, is limited to repair or replacement, at the manufacturer's discretion. No specific claim of merchantability shall be assumed or implied beyond what is printed on the manufacturer's printed literature. No liability shall exist from circumstances arising from the inability to use the product, or its inappropriateness for any specific purpose. It is the user's responsibility to determine the suitability of the product for any particular use.

In all cases, it shall be the responsibility of the customer to insure a safe installation in compliance with local, state and national electrical codes.



8. PARTS DIAGRAM



#	Component	#	Component	#	Component
1	Plastic Spanner	14	Screw (8x30mm)	27	Motor
2	Lid Lock Ring	15	Base	28	Junction Box
3	Lid	16	o-ring	29	Current Safeguard
4	o-ring	17	Screw		
5	Basket	18	Diffuser		
6	Union Nut	19	Impeller		
7	Union Bushing	20	o-ring		
8	o-ring	21	Shaft Seal		
9	Pump Body	22	Flange		
10	o-ring	23	Screw		
11	Drain Plug	24	Flange		
12	Nut	25	Water Reject Ring		
13	Gasket	26	Screw		