

ecocirc® D5 Vario, Strong and Solar



INSTALLER: PLEASE LEAVE THIS MANUAL FOR THE OWNER'S USE.



SAFETY INSTRUCTIONS: This safety alert symbol will be used in this manual and on the pump safety instruction decal to draw attention to safety related instructions. When used, the safety alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.

Highly Efficient Magnetic Drive Direct Current Circulators

The EcoCirc magnetically driven spherical motor design offers many benefits over other pump styles. It operates on extremely low input at a specified nominal voltage up to 24 volts; the spherical permanent magnet eliminates impeller slippage; the motor does not have a shaft, no moving parts; and the pump has no conventional seals. The brushless motor has a lifetime in excess of 50,000 hours when operated at 12 volts and can be powered directly by solar panels, battery or other DC power sources. The unique screw ring design for this series of pumps allows switching to AC motors without changing the pump housings.

Installation Procedures

- Do not connect the pump to the electric supply unless fluid is in the plumbing lines. Running the pump dry may cause premature failure and will void the warranty.
- For maximum pump performance, locate the pump at the point of highest static pressure and above the lowest point of the system.
- For hot water systems, fluid temperatures above those rated for the pump may reduce pump life. The creation of steam in the plumbing lines may result in the pump running dry.
- Prevent back flow. The direction of flow is indicated by the arrow on the pump housing. Reverse flow will adversely affect the life of the pump. You may wish to install a check valve on the discharge side of the pump to prevent back flow.

NOTE: A swing type check valve is preferred. If a spring loaded check valve is used, it is important that the opening pressure be 1/2 PSI or less (3/4" or larger).

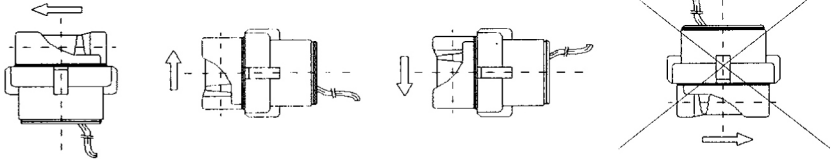
Mounting The Pump

Observe the permitted installation positions. With brass models, do not sweat the housing into the plumbing line with the motor drive unit or o-ring attached. Always remove the motor drive unit and o-ring from the pump housing before installing the brass housing into the plumbing line.

***Solar:** The Pump should be mounted on the supply line to the collectors pumping in an upward position.

NOTE: Pump is shipped with pump housing screw ring loosened to ease removal of pump from motor housing during installation. Before pressurizing system, be sure to tighten screw ring. Hand tightening is sufficient. **DO NOT OVER TIGHTEN THE SCREW RING.**

Installation Positions



Available Pump Housings



Noryl 3/4"
Hose barb



Noryl 1/2"
Hose barb



Noryl 1/2" Male
Threaded



Brass 1/2" Female
Thread/Sweat



Brass Union
Coupled

Power Source Requirements

In order to ensure full service life of the D Series pump, it is important to provide a stable and non-degrading power source at the required voltage. Operating the pump out of the specified voltage range may reduce the life of the motor and will void the warranty.

Electrical Connection

- The pump is provided with 6" pigtails for field hard wiring. The red lead is positive.
- Be certain that correct polarity is observed.
- Ensure that the electrical supply is correct and that the supply cable is suitable for the rated load indicated on the pump label.
- Wire the pump in accordance with your system application.
- A quick function test without liquid is acceptable at this time. However, if the system is not filled with liquid, reduce the time of this function test to an absolute minimum. The pump is liquid cooled and will build heat rapidly. Excessive heat generated by dry run operation for extended periods will damage the pump.
- After ensuring that the unit is functioning properly, fill the system and purge any air that may be trapped in the system loop.

Start-Up

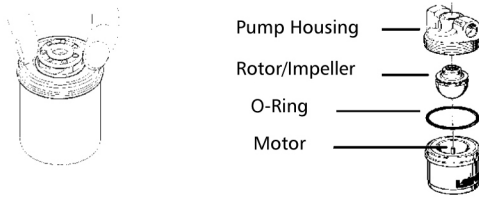
- Make certain that the system is filled with liquid and that the air has been purged.
- Open the isolation valves and any other valves that may have been closed during the pump installation.
- Switch the pump on.
- If you hear noise initially, this should abate after a short while as air is purged from around the impeller.
- Power cycling the pump several times accelerates the air removal.
- If the noise does not disappear or decrease substantially, purge the system once again.

***Vario:** Once the system is running normally select the proper pump speed.

***Solar:** It is recommended that the pump be left in the auto position for best results.

Trouble Shooting

- Check the electrical supply. Check electrical connections to the motor leads. Ensure the polarity is correct and the connections are secure.
- If the pump still does not operate, shut off the isolation valves and disconnect the electrical supply. Turn the screw ring and carefully remove the motor unit.
- Lift the rotor/impeller unit to ensure it is free of foreign matter. Be sure to lift the rotor/impeller unit straight out of the motor cavity to prevent damage to the bearing support. There will be a magnetic force resisting removal of the rotor/impeller. Use gentle, but steady lifting forces. Use fingers only. **DO NOT PRY UP ROTOR/IMPELLER UNIT WITH SCREW DRIVER.**
- If the rotor shows scratches or discoloration around its base, check for the following conditions:
 - The bearing may be worn and replacement of the rotor/impeller assembly may be necessary. Replace the worn rotor/impeller assembly into the bearing with a new assembly and ensure that it spins freely.
 - Air may not be completely purged from the system causing cavitation and heat build-up as indicated by discoloration of the rotor or motor housing. Purge the system of air once again and replace the rotor if necessary.
 - After repair or replacement of the unit is complete, and after connecting the pump to the electrical supply, run the pump for a short while, during which the rotor/impeller unit should rotate freely.
 - If operating properly, refit the motor, open the isolation valves and the unit will operate normally.



Thermal Safety

WARNING: - Extreme Temperature Hazard - If the pump, motor or piping are operating at extremely high or low temperature, guarding or insulation is required. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

Electrical Safety

WARNING: - Electrical Shock Hazard - Electrical connections are to be made by a qualified electrician in accordance with all applicable codes, ordinances and good practices. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

WARNING: - Electrical Grounding Hazard - Adequate electrical grounding is required for the safe operation of Laing Pumps. Ground the pump back to the service using a copper conductor at least the size of the circuit connectors supplying the pump. Connect the ground wire to the ground terminal in the wiring compartment. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

WARNING: - Risk of Electric Shock - Do not install this pump in swimming pool or marine areas. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

Removal of Pump From Existing System For Replacement



WARNING: - Electrical Shock Hazard - Disconnect and lockout the power before servicing. Failure to follow these instructions could result in serious personal injury, death and/or property damage.

1. Close the valves on the suction and discharge sides of the pump. (if no valves have been installed, it may be necessary to drain the system.)
2. Disconnect the electrical supply lines to the pump.



WARNING: - Hot Water Hazard - Before draining the system, allow water to cool to at least 100F, open the drain valve (take precautions against water damage) and leave the drain valve open until servicing is complete. Failure to follow these instructions could result in serious personal injury, death and/or property damage.



WARNING: - Electrical Shock Hazard - Be certain the electrical power is not present at the motor leads before continuing. Failure to follow these instructions could result in serious personal injury, death and/or property damage.



WARNING: - High Pressure Hazard - Pressure may be present in the pump body. This pressure can be relieved by loosening the flange bolts and shifting the pump assembly slightly to allow the pressurized water to escape. Failure to follow these instructions could result in serious personal injury and death.

Goulds Water Technology Branded Products

Limited Consumer Warranty

For goods sold for personal, family, or household. Seller warrants the goods purchased hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings, and other "wear parts" or consumables all of which are not warranted) will be free from defects in material and workmanship for a period of one (1) year from the date of installation or twenty-four (24) months from the date of manufacture (which date of manufacture shall not be greater than thirty (30) days after receipt of notice that the goods are ready to return) whichever shall occur first.

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform to the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees, and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. The Warranty is conditioned on Buyer giving written notice to Seller of any defects in material or workmanship of warranted goods within ten (10) days of the date when any defects are first manifest.

Seller shall have no warranty obligations to Buyer with respect to any product that have been: (a) repaired by third parties other than Seller or without Seller's written approval; (b) subject to misuse, misapplication, neglect, alteration, accident, or physical damage; (c) used in a contrary to Seller's instructions for installations, operation, and maintenance; (d) damaged from ordinary wear and tear, corrosion, or chemical attack; (e) damaged due to abnormal conditions, vibration, failure to properly prime, or operation without flow; (f) damaged due to a defective power supply or improper electrical protection; or (g) damaged resulting from the use of accessory equipment not sold or approved by Seller. In any case of products not manufactured by Sellers, there is no warranty from Seller; however, Seller will extend to Buyer any warranty received from Seller's supplier of such products.

THE FOREGOING WARRANTY IS PROVIDED IN PLACE OF ALL OTHER EXPRESS WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE (1) YEAR FROM THE DATE OF INSTALLATION OR TWENTY FOUR (24) MONTHS FROM THE PRODUCT DATE CODE, WHICHEVER SHALL OCCUR FIRST. EXCEPT AS OTHERWISE REQUIRED BY LAW, BUYER'S EXCLUSIVE REMEDY AND SELLER'S AGGREGATE LIABILITY FOR BREACH OF ANY OF THE FOREGOING WARRANTIES ARE LIMITED TO REPAIRING OR REPLACING THE PRODUCT AND SHALL IN ALL CASES BE LIMITED TO THE AMOUNT PAID BY THE BUYER FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OTHER FORM OF DAMAGES, WHETHER TO LOSS OF PROFIT, LOSS OF ANTICIPATED SAVINGS OR REVENUE, LOSS OF INCOME, LOSS OF BUSINESS, LOSS OF PRODUCTION, LOSS OF OPPORTUNITY OR LOSS OF REPUTATION.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

To make a warranty claim, check first with the wholesaler or seller from whom you purchased the product or visit www.xylem.com for the name and location of the nearest representative providing warranty service.

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