



ALITA LINEAR AIR PUMP

OPERATION & MAINTENANCE MANUAL

AL-

Model Number

Date Code / Serial Number

Date of Purchase

LIMITED WARRANTY

ALITA warrants to the original retail consumer purchaser ("Customer") that the ALITA Products, when properly installed and operated under normal conditions of use, will be free from defects in materials and workmanship for a period of three (3) years from the date of purchase from ALITA or an authorized ALITA representative or distributor. Customer is responsible for registration of product warranty and maintaining a dated proof of purchase, and such registration and proof shall be used to determine warranty eligibility.

ALITA Limited Warranty covers only those defects which arise as a result of normal use of the product and do not apply to any: (a) defect or malfunctions resulting from failure to properly install, operate or maintain the ALITA Product in accordance with printed instructions provided; (b) failures resulting from abuse, accident or negligence; (c) ALITA Products which are not install in accordance with applicable local codes, ordinances and good trade practices; (d) operation outside the ALITA Product's specifications or used for purposes other than for what it was designed and manufactured; (e) improper or inadequate maintenance or modification, and (f) damage due to shipment, lightning, natural disaster, earthquake, fire, flood, force majeure or circumstances beyond the control of ALITA.

If within the duration of Limited Warranty, the ALITA Product shall prove to be defective due to defective materials or workmanship of ALITA, ALITA shall either repair or replace the defective product, at ALITA's option. ALITA shall have no obligation to repair or replace until the Customer returns the defective product, together with dated proof of purchase and written notice of alleged defect to ALITA. Customer may be required at ALITA's request to verify that he or she is the original purchaser of the ALITA Product and the ALITA Product has been installed and operated in accordance with ALITA's instructions. Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced. No requests for service under this warranty will be accepted if received more than 30 days after the term of the warranty.

ALITA shall be liable only for the cost of the replacement part, or the repair of any defective part. Customer shall be responsible for labor, cost of removal and installation at Customer's premises, transportation and insurance cost to and from ALITA, and any other incidental costs.

Correction of defects, in the manner and for the duration of the warranty described in this Limited Warranty, shall constitute complete fulfillment of all liabilities and responsibilities of ALITA to the Customer with respect to the product, and shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise.

Except for the obligations specifically set forth in this Limited Warranty, in no event shall ALITA be liable for direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory and whether advised of the possibility of such damages.

ALITA disclaims all other warranties with respect to ALITA Product, whether implied, and specifically disclaim the implied warranties or conditions or merchantability, satisfactory quality, fitness of a particular purpose.

Unauthorized extensions of warranties by the customer shall remain customer's responsibility.

ALITA reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such a change or improvement.

The limited warranties described herein shall be the sole and exclusive remedy available to the Customer. This warranty is void if the ALITA Product has been improperly used, mishandled, disassembled or modified.

CUSTOMER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF ALITA PRODUCTS FOR CUSTOMER'S USE OR RESALE, OR FOR INCORPORATING THEM INTO OBJECTS OR APPLICATIONS WHICH CUSTOMER DESIGNS, ASSEMBLES, CONSTRUCTS OR MANUFACTURES.

SAFETY INSTRUCTIONS

WARNINGS Special care should be taken when operating an electrical device. To avoid possible **Electric Shock** or risk to personal safety, please observe all electrical safety rules and tips. Here are some examples:

- To prevent electric shock resulting from water back-siphoning, pump must be installed above the water level.
- Reduce the risk of bursting by only use air handling devices rated for pressure no less than 8 psi.
- Connect the pump only to an outlet with GFCI (see Proper Grounding).
- Do not use this pump in the vicinity of explosive or flammable materials, liquids or gases.
- Do not use the air pump other than to pump air.
- Do not operate this pump if it falls into or being flood by water.
- Do not operate this pump when there is water on parts that are not intended to be wet.
- Do not operate this pump if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.
- Keep power cable away from heated surfaces.
- To prevent any personal injury or damage to the equipment, operate the pump only in fully assembled state.

INSTALLATION NOTES

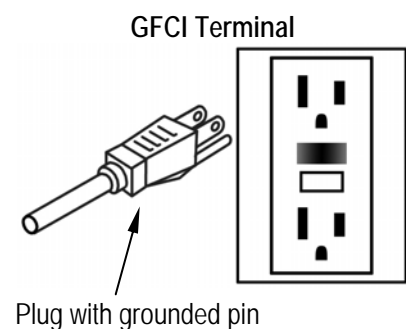
Install the pump upright securely on a dry and stable horizontal surface prior to operation. Sit pump in shaded area that shelters from excessive weathering. Do not allow pump to swelter under intense sun or flooded by rain, and avoid places with excessive dust or debris. The ambient operating temperature for this pump is between 41°F (5°C) and 104°F (40°C). Operation of pump in temperature outside of the recommended temperature range may result in malfunction or severely shorten the pump life.

For aeration applications, the pump should be installed above the water surface level. If necessary, install a reliable low air resistance check valve to prevent water back flow or siphon when electrical power is turned off. Inspect and replace clogged check valve regularly.

From a drip loop (U shape) for the power cable to prevent any water dripping down the line from entering the electrical outlet, which could cause a short or electric shock.

PROPER GROUNDING In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Connect the pump only to an outlet with **GFCI (Ground Fault Circuit Interrupter)**. This device should serve to interrupt the flow of electric current in the event of ground faults (electrical current that unintentionally flows to ground). Check proper operation of GFCI every month, and replace faulty GFCI immediately.



Check with a qualified electrician when the grounding instructions are not completely understood, or when in doubt as to whether the product is properly grounded. Do not modify the plug provided; if it do not fit the outlet, have the proper outlet installed by a qualified electrician.

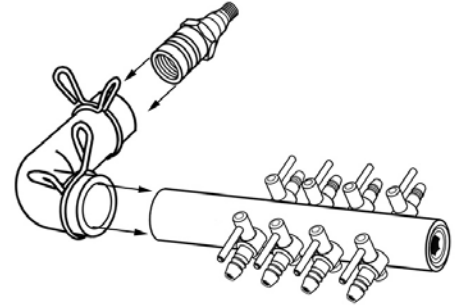
If extension cord is necessary, use only a 3-wire extension cord that has a 3-blade grounding plug, and a 3-slot receptacle that accepts the plug on the pump. Make sure your extension cord is not damaged. When using an extension cord, be sure to use one heavy enough to carry the current the pump draws. For lengths less than 50 ft, No. 16/3 AWG extension cord shall be used. An undersized cord can result in a drop in line voltage, loss of power and overheating.

OPERATION NOTES

Do not block or restrict pump discharge. Excessive back pressures can stress and shorten the service life of pump diaphragms and may lead to pump damages. Vent excess air volume with a bleed valve.

Efficient air delivery or division can be accomplished by:

- Use airline with large inner diameter and matching pipe fittings. For example, 3/8" ID and 1/4" ID airline offer 4X and 1.8X more cross sectional area than that of 3/16" ID airline, respectively. When lengthy airline is installed, friction loss from larger airline is very low or negligible.
- When dividing the air volume to multiple outlets, use the largest airline tube possible between the pump and the air manifold. Select or construct an air manifold that offers a large inlet fitting. Gang valve with same size inlet and outlets is useful for subdivision.
- Select air diffusing media (i.e. air stone, porous pipe, etc.) with large surface area or in sufficient quantity. Higher air resistance may develop due to limited diffusing area.



PROPER VENTILATION The air pump must have sufficient room and air circulation for proper heat dissipation. Good ventilation ensures lower operating temperature and prevent thermal stress to key components such as pump diaphragms and coil windings.

Proper winterization technique may require the pump be relocated indoor or protected by an enclosure. Avoid any pump enclosure that insulate and increase the pump's operating temperature. Modify the enclosure if the pump's operating temperature is higher than normal.

In case of unusual noise or odor from the pump, turn off the power immediately, consult the maintenance guide, or contact your nearest pump representative or Alita service department for assistance.

CAUTIONS

- Do not attempt to operate this pump with corrosive gases, fluids, airborne particles or solids. Any vapor or oil-based contaminants must be filtered out.
- Do not lubricate this oil-less air pump. No parts on this pump have oil or require lubrication. Avoid close proximity to products that may release oil or gasoline vapors.

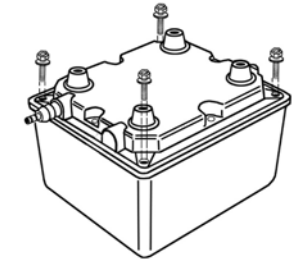
MAINTENANCE GUIDE

Periodic pump maintenance is required for reliable continuous operation. Any maintenance of the pump other than those described within this manual must be performed by an authorized service facility. Always unplug pump prior to maintenance. Grasp plug to remove cord from electrical outlet. Do not remove by pulling on power cord.

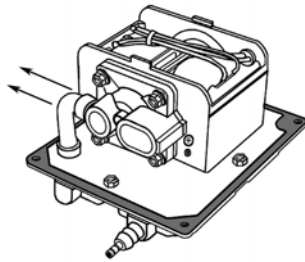
Air inlet should be inspected and cleaned every 3 months of operation. To remove any debris or material lodged within the intake, sit pump upside-down and remove all 4 corner screws. Lift away upper housing and proceed to clean the intake. Reinstall upper housing after cleaning.

Diaphragm module replacement is recommended for every 24 months of continuous operation or after 20,000 hours of use. If the pump makes an abnormal noise or if the discharged air volume and pressure is extremely low, turn off the air pump immediately. This may indicate a worn or damaged diaphragm, which needs to be replaced. Diaphragm Replacement Kit (Part No.: DRK615) can be ordered from Alita Industries or from your local Alita representative.

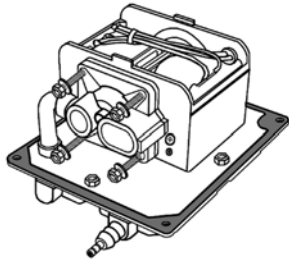
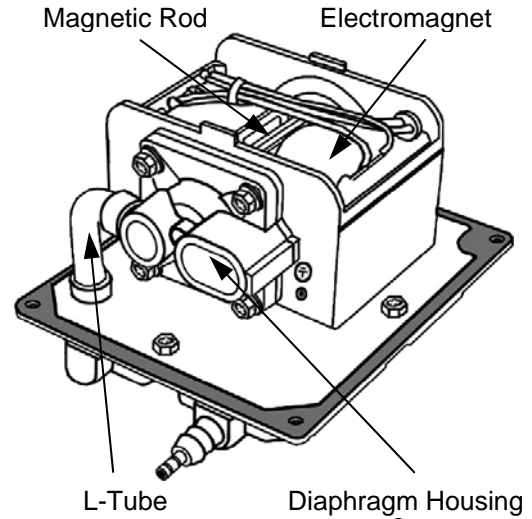
Diaphragm Module Replacement Procedure



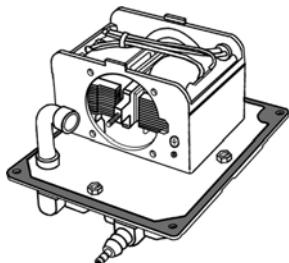
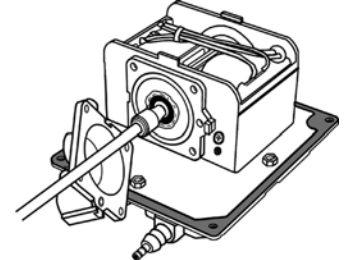
1. Set pump upside-down and remove all corner screws (4X) with socket wrench or screw driver. Return pump to upright position and lift away upper pump housing.



2. Slide down the silicone band and detach the rubber L-tube from each Diaphragm Housing with care. Do not damage the L-tube.



3. Select a Diaphragm Housing on the pump, remove its 4 corner screws then pull away the housing. Proceed to remove the Hex Nut and Washer from center of the Diaphragm then slide the entire Diaphragm Block away from Magnetic Rod and Core Frame.

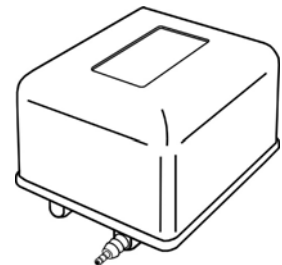


4. Select a new Diaphragm Block assembly from the DRK, ensure the rim of new Diaphragm is firmly embedded into the groove of Diaphragm Frame. Then match new Diaphragm Block to the Core Frame and secure to the Magnetic Rod with Washer and Hex Nut.

5. OPTIONAL: Apply 1 or 2 drops of threadlocker (use only removable grade) over the hex nut and the exposed thread of magnetic rod screw.

6. Install new Diaphragm Housing and secure with 4 corner screws.

7. Attach rubber L-tube to the Diaphragm Housing and secure with silicone band.



8. Repeat procedure #3 through #7 to replace old diaphragm module on the other side of pump.

9. Inspect the position of Magnetic Rod from the top. Confirm that the Magnetic Rod is centered between and NOT in contact with the two Electromagnets.

10. Install upper pump housing, and secure to pump firmly with all 4 corner screws.

For repair service contact Alita Industries for instructions and to receive an authorization number prior to sending the pump. Alita Industries will not be responsible for any lost or misdirected package.

The information contained in this document is subject to change without notice.

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