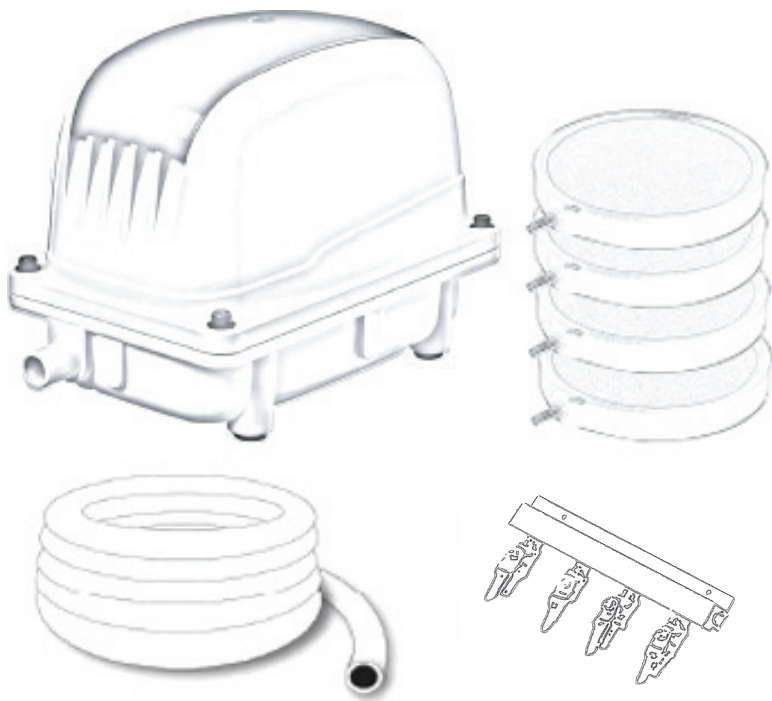


LIFELINE™

AERATION KIT

Owner's Manual



Models: LL-20K, LL-45K, LL-65K, LL-80K, LL-100K, LL-140K

LifeLine Aeration Kit

LifeLine Aeration Kits are safe, energy efficient, and whisper quiet. LifeLine delivers high aeration performance to create and maintain a healthy pond environment. LifeLine aeration enhances pond oxygen levels by circulating the water. The air pumps can be used year round by regulating oxygen levels in the summer, and keeping a hole in the icy water during the winter. LifeLine aeration kits are safe to use in both indoor and outdoor environments.

Please read this instruction manual carefully to provide optimal performance with your LifeLine Aeration Kit.

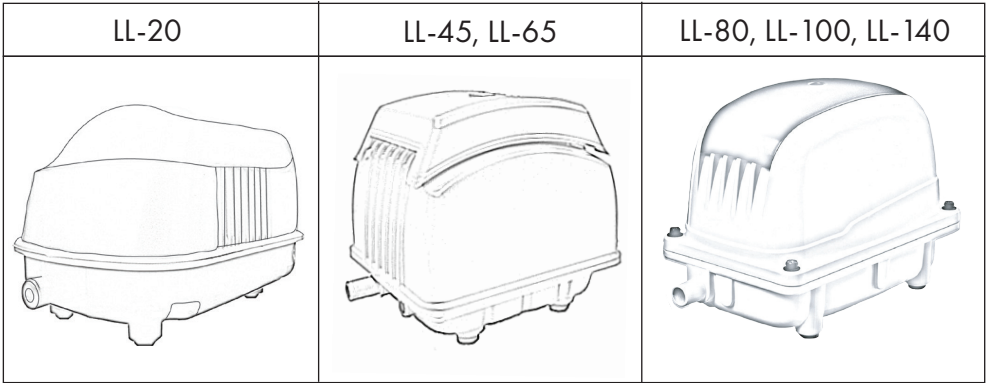
Parts Included

Model	Diffuser Disc		³ / ₈ " Weighted Vinyl Tubing	Manifold	Barbed T Fitting	Pipe Connector	Hose Clamp
	5in	8in					
LL-20	1	x	20'	x	x	1	1
LL-45	2	x	30'	2	1	1	2
LL-65	x	2	40'	2	1	1	2
LL-80	x	3	75'	1 3-Way	x	1	3
LL-100	x	4	80'	1 4-Way	x	1	4
LL-140	x	4	80'	1 4-Way	x	1	4

Features

- Manufactured with high-grade aluminum material to help absorb noise and keep your LifeLine Air Pump whisper quiet.
- Dual air chambers that produce strong air pressure.
- Oil-lubricated design to provide pure compressed air
- Unique structure and heat dissipating function.
- Reliable, oil free, and extremely energy efficient.

Air Pumps





Pump Specs

Model	Output	Watts	Max Pond	Max Depth	Optimal Depth
LL-20	1.4 CFM	30	2,500 Gal	7'	1' - 3'
LL-45	2.1 CFM	50	5,000 Gal	10'	1' - 5'
LL-65	2.8 CFM	65	8,000 Gal	12'	2' - 6'
LL-80	3.0 CFM	55	10,000 Gal	15'	2' - 8'
LL-100	3.5 CFM	65	12,000 Gal	15'	2' - 10'
LL-140	5.3 CFM	125	15,000 Gal	15'	2' - 10'

Warnings

We have provided many important safety messages in this manual. Always read and follow all safety messages.

ELECTRIC SHOCK HAZARD	<ul style="list-style-type: none">• Disconnect the power supply to all devices used in water before connecting your LifeLine Air Pump.
	<ul style="list-style-type: none">• Disconnect the power supply to pump before performing any maintenance procedures.• Do not operate pump with defective membrane/membranes.• Do not place air pump in water
FIRE HAZARD	<ul style="list-style-type: none">• Do not install or operate pump in the vicinity of highly flammable or explosive materials.
	<ul style="list-style-type: none">• Pump surfaces become very hot during operation, allow surfaces to cool before handling.• Do not place air pump in water.

The safety of you and others is extremely important.

Failure to follow these instructions can result in electrical shock, burns, fire, or death.

Disposal:

Please do not dispose this product with regular municipal waste. Product must be disposed at an authorized dump site for recycling of electronic devices. By doing this, you help save natural resources keeping the environment clean and healthy.

Safety Criteria

- Always keep aeration pump away from water.
- Unplug or power off all devices before performing maintenance.
- Pump may be used in freezing temperatures when in constant operation. Store pump in a dry room temperature area if it will not be in constant operation.
- The pump can be used for indoor and outdoor operation.
- Use a clean damp cloth when washing the exterior of the pump. Make sure pump is unplugged.
- Ensure that the power voltage and frequency to be utilized conform to the power requirements specified on the product nameplate before use. Use a standard GFCI outlet.
- This pump should be grounded while in use to prevent electric shock.
- Pump surfaces become very hot during operation, allow surfaces to cool before handling.
- If pump falls into water, unplug before retrieving it. Let qualified technicians check your pump before using it again.
- Carefully examine the appliance after installation, if the supply cord is damaged, it must be replaced by a qualified technician in order to avoid hazard.
- Do not carry pump by the power supply cord. Disconnect the plug when not in use and before performing maintenance.
- The unit is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.
- Maintenance is required periodically to help ensure longevity of pump.
- Immediately unplug the power cord during operation if any unusual activity occurs. Contact your distributor or qualified technician.
- Ensure that the power cord hangs below the electrical outlet to form a "Drip Loop". This will prevent water from running down the cord into the outlet.

Failure to follow the instructions and warnings in this manual may result in voiding of warranty, pump's damage, and/or serious injury. Be sure to read and save this manual for future reference.

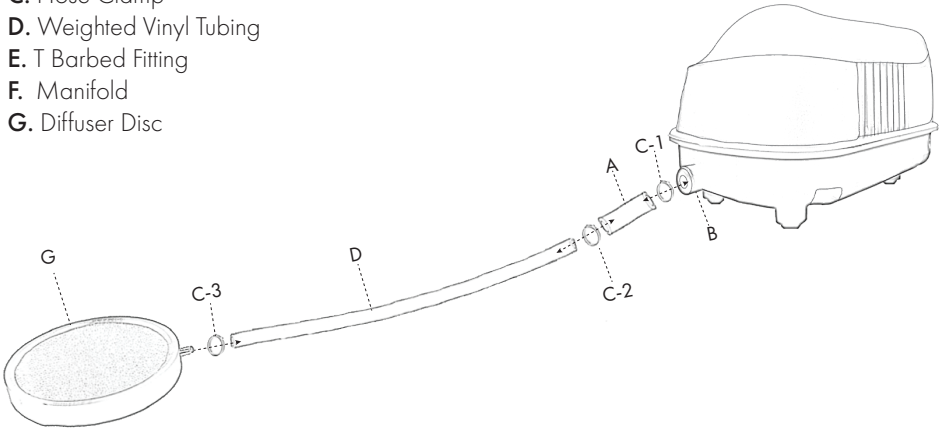
LifeLine Aeration Kit Installation Instruction Guide

Note: Pliers will be needed for cutting tubing and tightening clamps (tools not included).

Use letter chart below as a guide to connect your LifeLine Air Pump

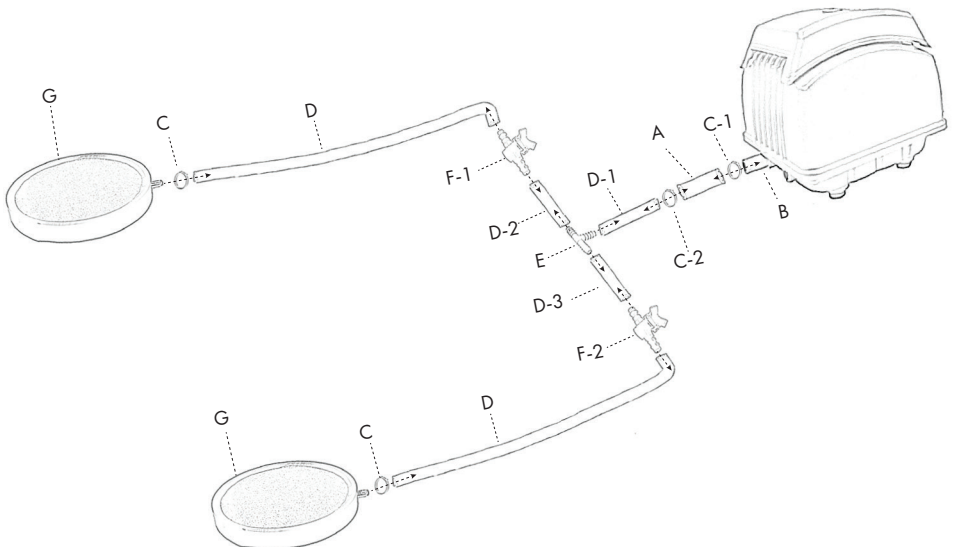
- A. Connector Pipe
- B. Air Vent
- C. Hose Clamp
- D. Weighted Vinyl Tubing
- E. T Barbed Fitting
- F. Manifold
- G. Diffuser Disc

LL-20



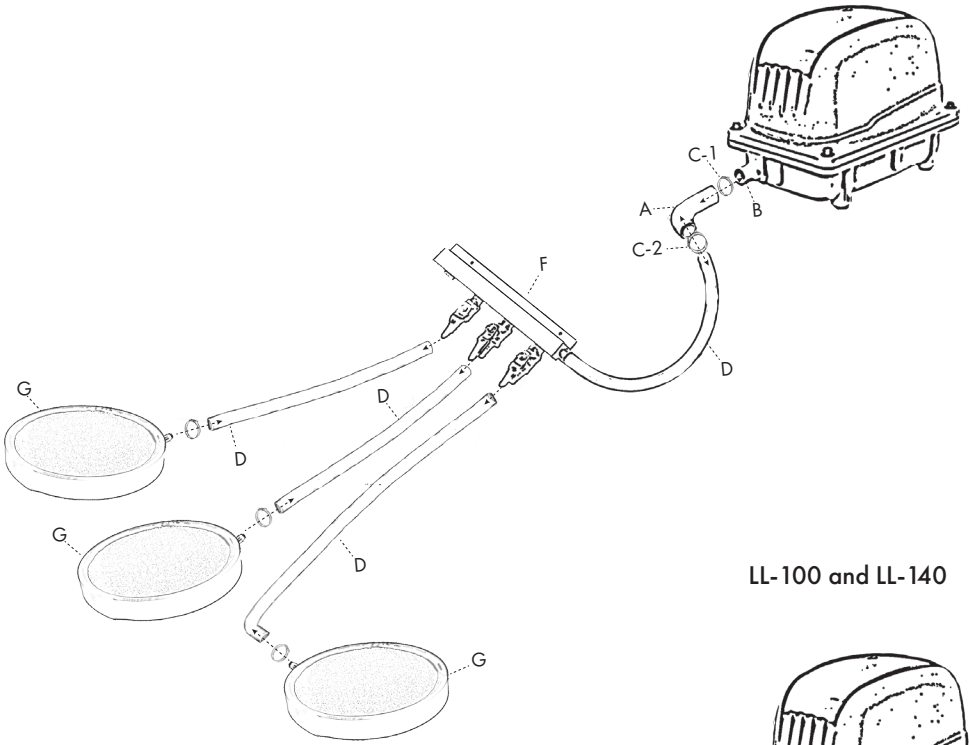
For LL-45 and LL-65 kits, begin by cutting (3) 3" pieces of tubing. Connect as shown.

LL-45 and LL-65

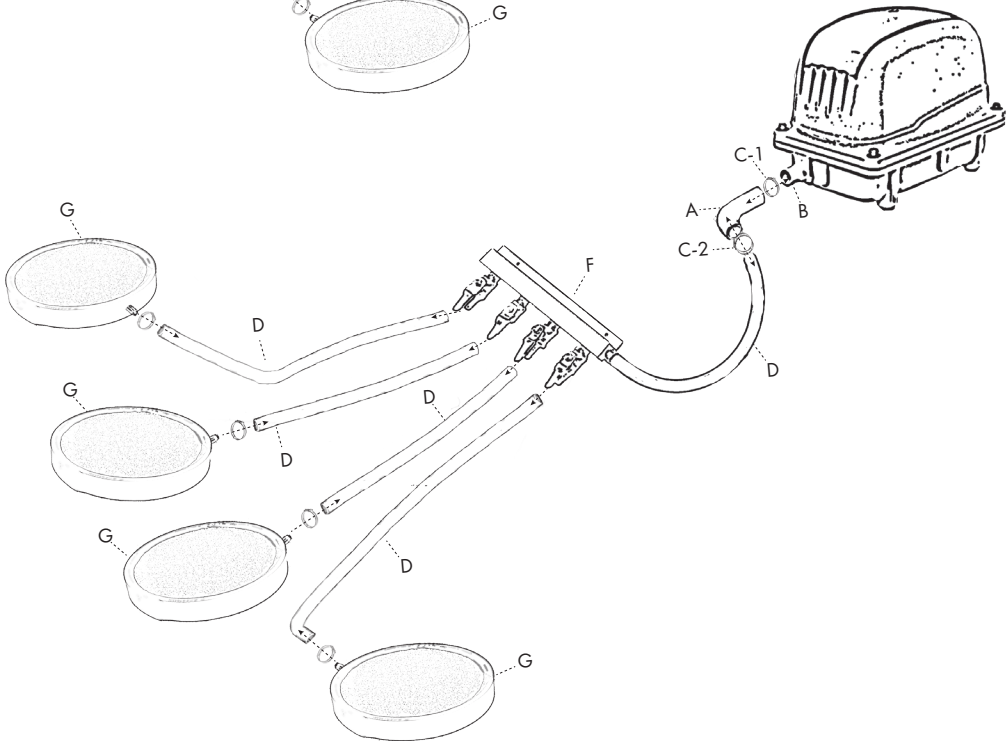


Connect as shown.

LL-80



LL-100 and LL-140



Set up

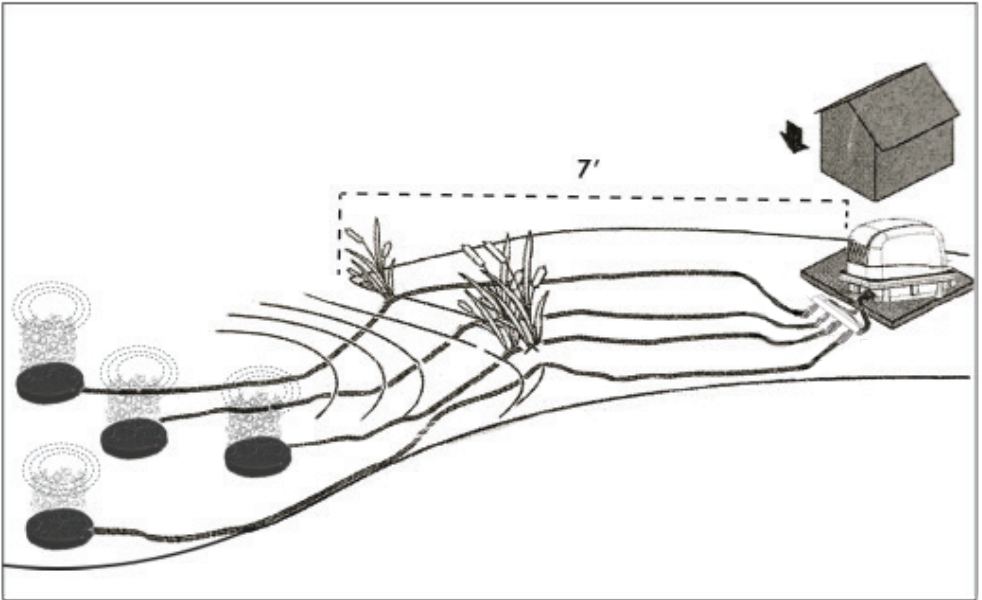
Disconnect the power supply to all devices used in water before connecting your LifeLine Air Pump.

Place LifeLine Air Pump at least 7' away from the pond in a dry location at room temperature.

Do not store air pump in an area that is highly humid. The metal components on the inside of the pump can easily corrode. Damages resulting in incorrect installation will void the warranty.

Keep pump above water level to prevent returning water flow. Damages resulting in incorrect installation will void the warranty.

Failure to follow pump instructions will damage pump, or cause premature failure thus voiding the warranty.



Place the diffuser discs in different locations under water for best aeration results throughout your pond or water source. Weighted tubing will keep discs securely at the bottom of the water. Place each discs no more than 10' under water for best aeration results. See image above.

Note: Never install or operate the pump in the vicinity of highly flammable or explosive materials.

Interval operation: When the pump is powered off for several hours in intervals, condensation can form from the inside of the unit. Store pump in a dry closed room at room temperature to help prevent condensation from happening.

Tubing Divider and Diffuser Discs Connection.

Diffuser discs are used to increase the oxygen levels in the water. The organic waste at the bottom of the pond is broken down by bacteria, though the oxygen is also needed in the process. Thanks to diffused air aeration, the oxygen transfer can take place. Dissolved oxygen ends up in the water in every part of the pond creating a healthy water environment.

One or more discs can be connected to the pump after creating an air divider. Ensure all tubing is tightly secured when installing your LifeLine Air Pump System.

Note: Avoid Sharp bends when laying out your weighted tubing with diffuser discs attached.

Discs will work effectively down to 10 feet.

Old or dirty diffuser discs will reduce aeration capacity. Make sure to follow maintenance procedures periodically to prevent build-up from pump's airway.

Ensure that the pump can discharge air at all times when powered on or it will heat up leading to damage. Any damages due to not following instructions will void the warranty.

Never place pump in water. To guarantee a long service life, it is necessary to install the pump under dry conditions free of moisture and dust. If pump becomes dirty, it can cause a short service life. To extend the service life of your pump, it is critical to follow maintenance procedures periodically.

Please note a temperature above 104°F can cause the diaphragm in your pump to fail.

Start-up

Switching on: Connect power plug to the socket. The unit switches on immediately when the power connection is established.

Switching off: Disconnect the power plug.

Turn manifold valves on or off providing air to different diffuser discs and areas where you would like air to reach.

Storage

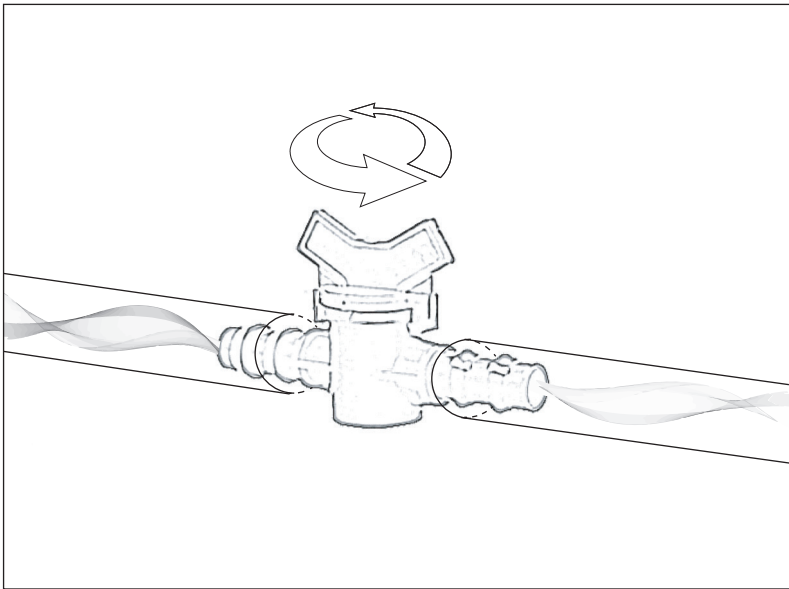
When the unit is in continuous operation it can remain in place at freezing temperatures. Otherwise store unit indoors in a dry room (room temperature).

Note: Never place air pump in water. To guarantee a long service life, it is necessary to install the pump under dry conditions with no moisture or dust. Dirt, moisture, and/or improper air flow and circulation around the pump can dramatically shorten pump life and cause premature failure.

Manifold Valves

Manifold valves allow you to provide air to multiple diffuser discs in different locations around the pond with a single air pump.

These valves come in a $\frac{3}{8}$ " barb width. They allow you to turn the air on and off, plus they allow you to control the air pressure to each diffuser disc. When diffusers are different distances away from the air pump, you can adjust the valves so each diffuser has the same amount of bubbling. See image below.

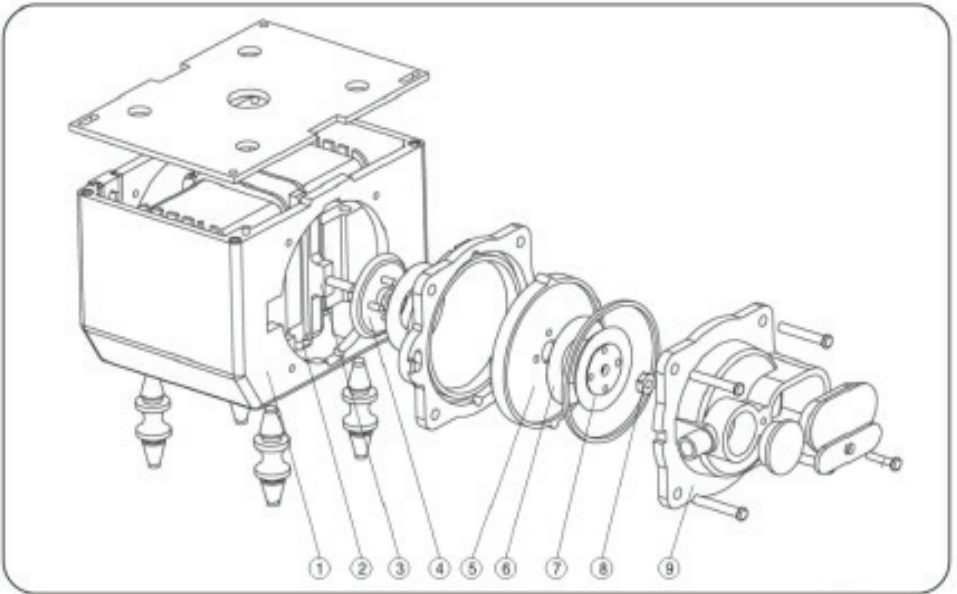


For 3-Way and 4-Way Manifolds, you will turn the red levers right or left to control air pressure.

Air Pump Diaphragm Replacement

LL-20, LL-45 and LL-65 Instructions

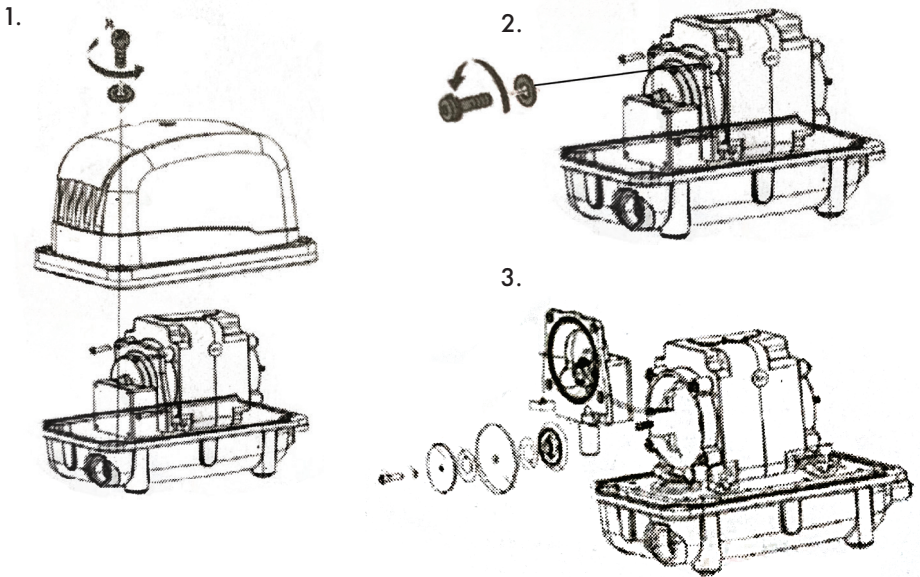
1. Remove the air chamber cover (#9 in diagram below).
2. Loosen the nut (#8 in diagram below).
3. Remove the diaphragm depressor (#7 in diagram below), electrostatic membrane (#6 in diagram below), and diaphragm (#5 in diagram below).
4. Replace the old diaphragm with a new diaphragm. Please note that when fixing: make sure the diaphragm fits correctly into the slot of the air chamber.
5. Reassemble the pump in the reverse order.



Visit www.anjonmfg.com for a step by step guide on how to replace the diaphragm.

LL-80, LL-100, and LL-140 Instructions

1. Undo screws and remove the upper section of the pump from the bottom section (see figure 1 below).
2. Undo screws on valve unit. Lay the screws aside separately from the other screws. Tilt valve unit to the side (see figure 2 below).
3. Remove screw including washer from the mounting post. Remove support including cover patch. Remove diaphragm socket. Insert new diaphragm(s). Reassemble the unit in the reverse order (see figure 3 below).



Never operate the unit with defective diaphragms. Always replace the complete pair even if one diaphragm is defective. **Failure to follow these instructions can result in electric shock, serious injuries, or even death.** Please contact a qualified technician if you did not wish to undertake the replacement yourself.

Please note a temperature above 104°F can cause the diaphragm in your pump to dry and crack.

Maintenance

Disconnect the electrical power supply cord before performing maintenance on this product.

Pump surfaces become very hot during operation, allow surfaces to cool before handling.

It is your responsibility to:

- Maintain/clean air filter periodically: Remove protective cover, clean filter, and secure cover back onto pump.
- Replace diaphragm periodically. Diaphragms are not covered by warranty.
- Clean or replace diffuser discs periodically. Diffuser discs are not covered by warranty.

Filter Sponge Cleaning and Replacement

Any dust or foreign matter attached on the pump air inlet may cause abnormal noises or result in a failure of the pump.

1. Make sure to unplug the pump first before cleaning and maintenance.
2. Remove the filter sponge from the air inlet. Remove any dust or foreign matter from the air inlet, the filter cover, and the filter sponge mounting surface.

If the sponge is heavily soiled, you can use a neutral detergent to wash the old sponge down.

Remember to rinse it well with water completely and dry it in the sun before reinstalling.

Trouble Shooting

Symptoms	Possible Causes	Solutions
Pump does not run	No main voltage	Check main voltage
The pump does not deliver any air or the amount delivered is insufficient	<ol style="list-style-type: none"> 1. The regulating valves are completely or partially closed 2. The regulating valves are dirty 3. The diffuser discs are dirty 4. The air filter is dirty 5. Diaphragm defective 	<p>Open the regulating valves</p> <p>Disconnect and clean the regulating valves</p> <p>Clean the diffuser discs</p> <p>Replace air filter</p> <p>Replace diaphragm</p>
Pump is unusually loud	Valve unit or diaphragm defective	Replace valve unit or diaphragm
No bubbles coming out of diffuser disc/discs	<ol style="list-style-type: none"> 1. Tubing is bent 2. Diffuser discs are old or dirty 	<p>Keep tubing in straight lines/untangle tubing</p> <p>Clean or replace diffuser discs/disc</p>

Note: We recommend cleaning diffuser discs a few times throughout the year.

Warranty

Products manufactured by ANJON are warranted to the original user only to be free of defects in material and workmanship for a period of 24 months from the date of purchase, but not more than 30 months from the date of manufacture. ANJON liability under this warranty shall be limited to repairing or replacing, at ANJON's discretion, without charge, F.O.B. ANJON will not be liable for any cost of removal, installation, transportation, or any other charges which may arise in connection with a warranty claim.

Products which are sold but not manufactured by ANJON are subject to the warranty provided by the manufacturer of said product(s) and not by ANJON's warranty. ANJON will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair, or if the product was not installed in accordance with ANJON's printed installation and operating instructions.

To obtain service under this warranty, the defective product must be returned to the distributor or dealer of ANJON's products from which it was purchased together with proof of purchase and installation date, failure date, and supporting installation data. Unless otherwise provided, the distributor or dealer will contact ANJON or an authorized service station for instructions. Any defective product to be returned to ANJON or a service station must be sent freight prepaid: documentation supporting the warranty claim and/or a Return Merchandise Authorization (RMA) must be included if so instructed. In the absence of suitable proof of purchase date, the effective date of this warranty will be based upon the date of manufacture.

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. Correction of defects, in the manner and for the duration of the warranty described in this warranty, shall constitute complete fulfillment of all liabilities and responsibilities of ANJON to the user with respect to the product, and shall constitute full satisfaction of all claims, whether based on contract, negligence, and strict liability or otherwise. Except for the obligations specifically set forth in this warranty, in no event shall ANJON 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. ANJON 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.

THERE ARE NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH EXTEND BEYOND THOSE WARRANTIES DESCRIBED OR REFERRED TO ABOVE EXCEPT AS EXPRESSLY HEREIN PROVIDED THE GOODS ARE SOLD "AS IS", THE ENTIRE RISK AS TO QUALITY AND FITNESS FOR A PARTICULAR PURPOSE, AND PERFORMANCE OF THE GOODS IS WITH THE BUYER, AND SHOULD THE GOODS PROVE DEFECTIVE FOLLOWING THEIR PURCHASE, THE BUYER AND NOT THE MANUFACTURER, DISTRIBUTOR, OR RETAILER ASSUMES THE ENTIRE RISK OF ALL NECESSARY SERVICING AND REPAIR.

Some jurisdictions do not allow the exclusions or limitation of incidental or consequential damages and some jurisdictions do not allow limitations on how long implied warranties may last or require you to pay certain expenses as set forth above. Therefore, the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from jurisdictions to jurisdiction.



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