

# FujiMAC Air Pump Instruction Manual (For Pond and Aquarium Use)



- Model:
- MAC40KII
  - MAC60KII
  - MAC80KII
  - MAC100KII
  - MAC120KII
  - MAC150KII
  - MAC200KII



Thank you for purchasing the FujiMAC Air Pump. Read through this manual to gain full understanding before proceeding to actual operation. Please keep this manual for future reference.

## SAFETY PRECAUTIONS

Read the precautions carefully before operating the air pump. The contents of this section are vital to ensure safety. Please pay special attention to the following sign.

### ⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

### ⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury and/or property damage.

## To Activate Your 2 Year Warranty Complete & Return Within 15 Days Of Purchase



Customer Information

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Tel No.: \_\_\_\_\_

Email: \_\_\_\_\_@\_\_\_\_\_

Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Retail store name, address & phone number

Date of Purchase / /

TO: Hikari Sales USA, Inc.  
2230 Davis Court,  
Hayward, CA 94545



## 1. SAFETY

### ⚠ WARNING

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Do not let children clean and service the appliance without supervision.
- Close supervision is necessary when this appliance is used near children.
- Do not place any object on the power cord.
- If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Unplug or switch off all appliances in the aquarium or pond before carrying out maintenance.
- Do not use this appliance for other than intended use.
- Do not place flammable materials and/or gas near the air pump. Neglecting these notes may cause electric shock and/or fire.
- If an extended power cord is needed, a suitably sized extension cord should be used. Using an underrated cord may cause overheating. Ensure to choose a suitable extension cord so that it will not be tripped over or pulled.

### ⚠ WARNING – Preventing electrical shock

- Do not touch the plug with wet hands.
- Use the air pump at a higher position than water level in order to prevent water backflow.
- Do not immerse the air pump in the water. If it falls in the water, do not reach for it. Unplug the air pump immediately.
- Do not operate the air pump if it has damaged cord or plug, or if it is malfunctioning or has been dropped or damaged.
- If the plug does not fit fully in the outlet, contact a qualified electrician. Do not use with an extension cord unless the plug can be fully inserted.

### ⚠ CAUTION

- Working air pump is hot. Do not touch directly. Neglecting this note may cause injury and burn.
- Do not throw water on the air pump. Neglecting this note may cause damage to the air pumps and/or electrical shock.
- Do not lift the air pump by the filter cover or power cord.
- Make sure backup operation of aeration in case of accident. Low dissolved oxygen may happen and affect to aquarium lives.

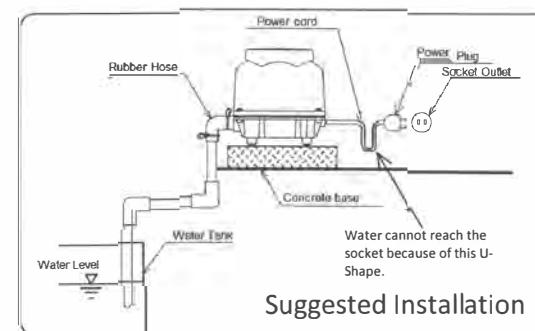
## 2. Installation

- Install the air pump in a place that provides easy access for inspection and maintenance.
- Install the air pump in a well ventilated place and away from direct sunlight preferably undercover.
- Place the air pump level on a stable surface.
- Connect the air pump and pipe by a rubber tube tighten by a pinch cock.
- Ensure voltage shown on the label correlates with the mains supply voltage.

### ⚠ CAUTION

- Do not install the air pump directly above the water tank so that it will not fall into the water tank in case of free fall.
- Make sure the air pump is in a dry, moisture and dust-free place, protected from rain, splashing water, flooding and snow accumulation.
- Do not install the air pump at the place which is under the kitchen fan or possible to take air including oil into the air pump.
- Install the air pump above the water level so that water does not flow back by siphon.

- Ensure that water cannot reach the socket (See the figure below).
- The air pump must be connected to a grounded, metallic, permanent wiring system, or an equipment-grounding terminal or lead on the product.



## <GROUNDING INSTRUCTIONS>

This product must be grounded. 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.

⚠ **WARNING** – Improper installation of the grounding plug is able to result in a risk of electric shock. When repair or replacement of the cord or plug is required, do not connect the grounding wire to either flat blade terminal. The wire with insulation having an outer surface that is green with or without yellow stripes is the grounding wire. Substitution of the signal word "DANGER" for "WARNING" is not prohibited when the risk associated with the product is such that a situation exists which if not avoided will result in death or serious injury. Check with a qualified electrician or serviceman 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 does not fit the outlet, have the proper outlet installed by a qualified electrician. This product is for use on a nominal 120-V circuit, and has a grounding plug similar to the plug illustrated in sketch A in Figure 1. A temporary adapter similar to the adapter illustrated in sketches B and C may be used to connect this plug to a 2-pole receptacle as shown in sketch B when a properly grounded outlet is not available. The temporary adapter shall be used only until a properly grounded outlet (sketch A) is installed by a qualified electrician. The green colored rigid ear, lug, or similar part extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by a metal screw.

## <Extension Cords>

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 product. Make sure your extension cord is not damaged. When using an extension cord, be sure to use one heavy enough to carry the current your product draws. For lengths less than 50ft, 18AWG extension cords shall be used. An undersized cord results in a drop in line voltage and loss of power and overheating. (NOTE: Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. When in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.)

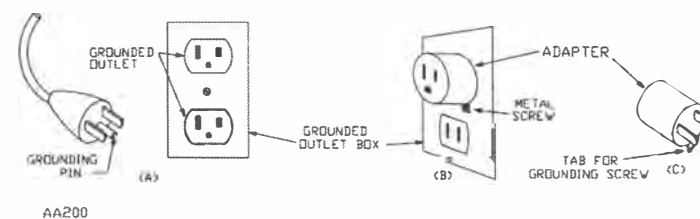
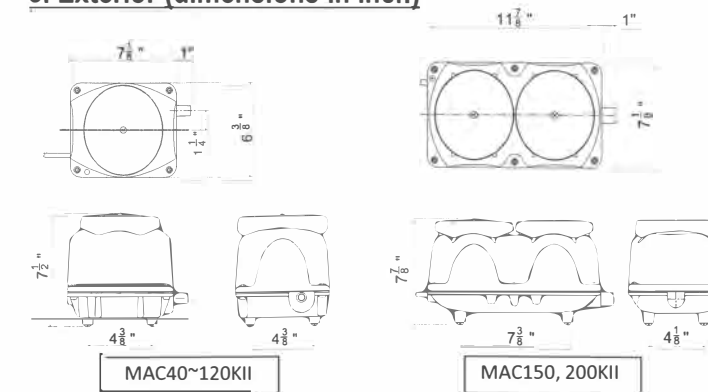


Figure 1 Grounding Method

Table 1 Minimum Gauge for Extension Cord

Cord length(ft)	25	50	100	150	200	250	300	400	500
AWG	18	18	16	14	12	12	10	10	8

## 3. Exterior (dimensions in inch)



## 4. Inspection and Maintenance

Diaphragm is consumable and is not covered by warranty, if needed diaphragm assembly kit can be bought at your dealer.

### ⚠ CAUTION

- Do not pull out a plug by the cord. It may damage the cord.
- Insert the power plug firmly into the power point.
- Working air pump is hot. Unplug the power cord and be sure to get cool down before open the cover.

### (1) Air Filter Inspect and clean every 3 or 4 months and replace every year

In order to optimize the lifespan of the air filter when it is used in areas where dust accumulation may be high, frequent maintenance is required. If the air filter gets too dirty, replacement will be necessary.

⚠ **Attention** Failure to adhere to this note may cause abnormal heat generation, an air flow volume decrease and/or early breakage of the diaphragm.

⚠ **Attention** Tightening torque of the screw fixing the filter cover is recommended 1.4 Nm (1 ft-lb). Tightening too tightly may damage the screw.

### (2) Diaphragm / Valve Replace every year

If the diaphragm/valve becomes damaged, the automatic -stop function engages (except MAC40KII). Further action must be taken to rectify the problem or deterioration of the use point due to an inoperable air pump may result. Low dissolved oxygen may happen and affect to aquarium lives. The diaphragms/valves should be replaced before it gets damaged. Always replace both diaphragms/valves at the same time.

⚠ **Attention** Neglecting this note may adversely affect the performance of the use point.

Diaphragm is consumable and is not covered by warranty, if needed diaphragm assembly kit can be bought at your dealer.

### (3) Pressure High pressure is strictly prohibited

Irregular heat generation and/or early diaphragm breakage may result if operation of the air pump is sustained at an abnormally high pressure.

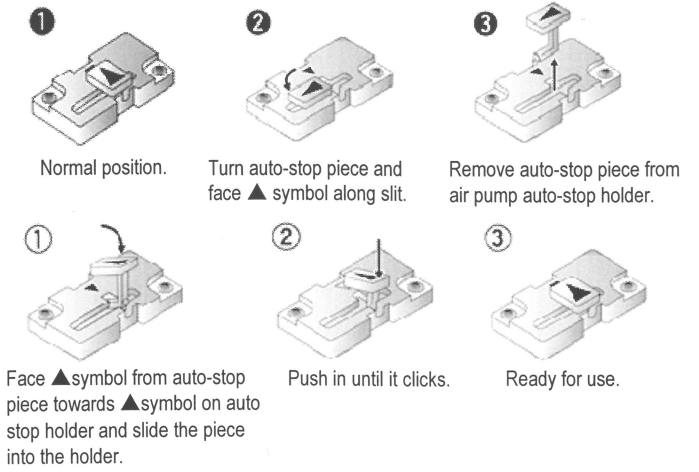
⚠ **Attention** Neglecting this note may cause material damage.

The accepted value for the working pressure between the use point and the air pump is  $\pm 20\%$  of the normal pressure. (refer to 6. Specifications)

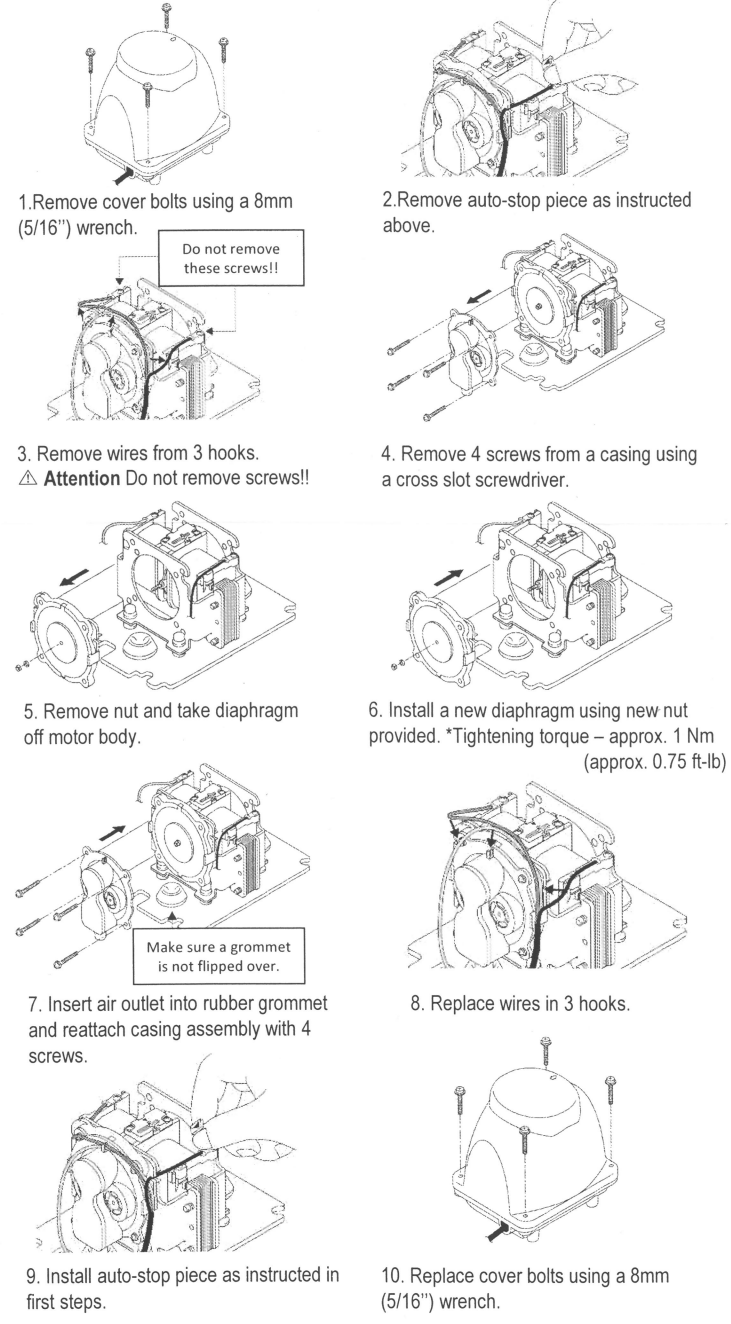
### (4) Power Plug Fire accident prevention

⚠ **Warning** Check whether any dirt and/or dust has built up on the power plug at least once a year and insert to the base and fit firmly. Dirt/dust accumulation and/or a faulty connection may cause electric shock and/or a fire accident.

<How to remove and set an auto-stop piece>



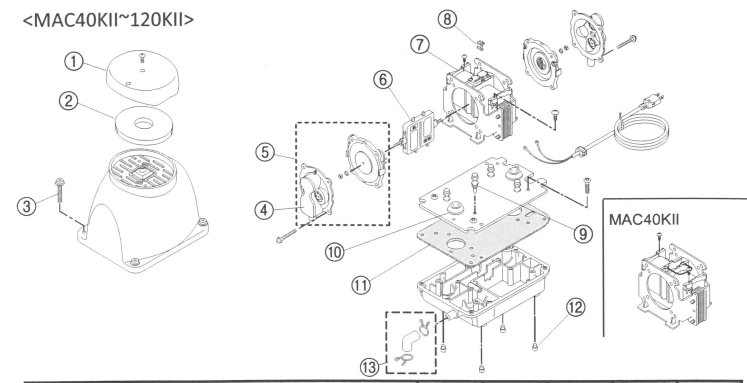
<Diaphragm Replacement Procedure>



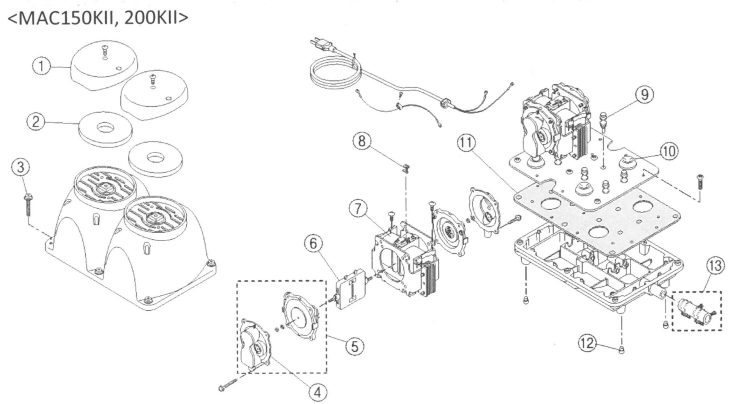
**Warning**  
Unplug the power cord and be sure to get cool down before open the cover.

- \* Replace both sides of diaphragm/casing assembly at the same time. If one diaphragm breaks, it generally indicates that the remaining diaphragm is weak and vulnerable to near term breakage.
- \* Replace diaphragm assembly kit every year to maximize lifespan.
- \* Operate blower to ensure proper operation after replacing diaphragms.
- \* Please do not lubricate any internal parts of air pump.

5. Exploded View and Service Parts

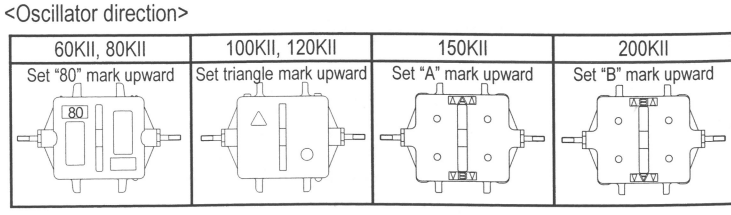


PN	Item Name	40KII	60KII	80KII	100KII	120KII
1	H612 N6 Filter cover	○				
	H613 N8 Filter cover		○	○	○	○
2	H507 N6 Air filter	○				
	H508 N8 Air filter		○	○	○	○
5	H150K N6 Diaphragm assembly(with N6 Compression chamber)	○				
	H154K T10 Diaphragm assembly(with T10 Compression chamber)		○	○	○	
	H157K T30 Diaphragm assembly (with T10 Compression chamber)					○
8	H256K N6 Auto-stop piece		○	○	○	
	H257 T30 Auto-stop piece					○
9	H658 N6 Shock absorbing rubber (4 pcs.)	○	○	○	○	○
10	H821 N6 Rubber grommet	○	○	○	○	○
11	H639 R10 Tank gasket	○	○	○	○	○
12	H659 N6 Rubber foot (4 pcs.)	○	○	○	○	○
13	H812 A4 Exhaling rubber hose assembly	○	○	○	○	○
	H814 E2 Exhaling rubber hose assembly					○



PN	Item Name	150KII	200KII
1	H613 N8 Filter cover	○	○
2	H508 N8 Air filter	○	○
5	H154K T10 Diaphragm assembly(with T10 Compression chamber)	○	○
8	H256K N6 Auto-stop piece	○	○
9	H658 N6 Shock absorbing rubber (4 pcs.)	○	○
10	H821 N6 Rubber grommet	○	○
11	H638 N0 Tank gasket	○	○
12	H659 N6 Rubber foot (4 pcs.)	○	○
13	H814 E2 Exhaling rubber hose assembly	○	○

**Attention** Please order 2 sets of same parts for 1 air pump (MAC150KII and 200KII).



6. Specifications

		MAC 40KII	MAC 60KII	MAC 80KII	MAC 100KII
Air Flow Volume	CFM	1.4	2.1	2.8	3.5
	L/min	40	60	80	100
Normal Pressure	PSI	1.7	2.2	2.2	2.6
	kPa	12	15	15	18
Power Consumption	W	30	37	51	74
Rated Voltage (Frequency)		120V (60Hz)			
Outlet Pipe Size		1/2" dia. (external 3/4" dia.)			
Rubber Hose Size		5/8" dia. (external 7/8" dia.)			
Weight		kg 5.0			
Power cord		3 × 18AWG × 6ft			
Country of Origin		Japan			

		MAC 120KII	MAC 150KII	MAC 200KII
Air Flow Volume	CFM	4.2	5.3	7.1
	L/min	120	150	200
Normal Pressure	PSI	2.6	2.9	2.9
	kPa	18	20	20
Power Consumption	W	93	115	155
Rated Voltage (Frequency)		120V (60Hz)		
Outlet Pipe Size		3/4" dia. (external 1" dia.)		
Rubber Hose Size		1" dia. (external 1-1/4" dia.)		
Weight		kg 5.0	9.0	9.0
Power cord		3 × 18AWG × 6ft		
Country of Origin		Japan		

<<French>>

Veiller à ne pas lubrifier les composants internes de la soufflante.

AVERTISSEMENT - Une installation inappropriée de la prise de mise à la terre peut entraîner un risque de choc électrique. Lorsque la réparation ou le remplacement d'un cordon ou d'un réceptacle est nécessaire, il faut éviter de relier le fil de mise à la terre à une des bornes à lame.

Le fil dont la surface externe de l'isolation est verte avec ou sans bandes jaune est un fil de mise à la terre.

1) Ce produit est destiné à une utilisation sur un circuit d'une capacité nominale de 120 V; sa prise de mise à la terre est similaire à celle montrée dans le schéma A de la figure 1. Un adaptateur temporaire similaire à celui montré dans les schémas B et C peut être utilisé pour relier cette prise à un réceptacle à 2 fiches - comme montré dans le schéma B - dans les cas où il n'y a pas de prise mise à la terre disponible.

L'adaptateur temporaire ne doit être utilisé que jusqu'à ce qu'il soit possible de faire installer une prise correctement mise à la terre (schéma A) par un électricien compétent. L'oreillette rigide, le tenon ou tout autre prolongement vert de l'adaptateur doit être relié à une mise à la terre permanente, comme un couvercle de boîte de jonction correctement mise à la terre. L'adaptateur doit être retenu en place par une vis de métal lorsqu'il est utilisé.

N'utiliser qu'une rallonge à 3 fils avec fiche à 3 lames avec mise à la masse et qu'un réceptacle à 3 prises qui peut accueillir la fiche du produit.

S'assurer que la rallonge est en bon état. Vérifier que la rallonge utilisée a une capacité nominale suffisante pour transmettre le courant requis par le produit.

Avertissement : RISQUE D'INCENDIE - Toujours se tenir à l'écart de toute matière inflammable. Seul du personnel qualifié est autorisé à ouvrir ou à entretenir l'unité. Toujours débrancher l'appareil avant d'effectuer l'entretien ou lorsque qu'il n'est pas utilisé.

Remarques : Le filtre à air doit être nettoyé tous les 3 ou 4 mois. Le personnel d'entretien doit toujours remplacer les membranes / les vannes en même temps.

Warranty Information

Important

The date of purchase and a copy of the receipt is required to activate your warranty by completing and returning the bottom section of this form. Please keep your warranty and purchase history in a safe place. You can also activate your warranty online at [www.hikariusa.com/fujimac](http://www.hikariusa.com/fujimac)

- ① If your pump malfunctions under normal use during the first two years, it will be replaced or repaired free of charge based on our determination of the cause of the malfunction. Please contact Hikari Sales USA, Inc. at (800) 621-5619 or visit [www.hikariusa.com/fujimac](http://www.hikariusa.com/fujimac) for details on initiating a malfunction claim.
  - ② Please note, you will be charged for repairs within the warranty period should any of the following occur:
    1. If the date of purchase, customer's name, address, phone number and email and a copy of the dealer's receipt are not provided on this warranty card or via the website above.
    2. If the pump was not used correctly based on instructions in the Instruction Manual.
    3. In the event of failure to replace usable parts annually with the Fujimac repair kit for your specific model. (please keep receipt as proof of repair)
    4. If there has been any modification to the pump or internal parts.
    5. If there has been any damage caused by direct impact to the pump case or internal components.
    6. Any failure or damage caused by natural disasters, pollution or abnormal voltage.
    7. Any failure or damage caused by animals.
    8. Use of the pump without using a proper check valve to eliminate water flowing from your aquatic environment into the pump.
    9. If the pump was not new, was used, was purchased at an auction or second-hand store.
    10. Failure or damage was caused by use outside the rated voltage, frequency or pressure range.
    11. If the pump was used in any manner inconsistent with the intended use.
- Note: This warranty does not provide any guarantee for disease, fish death, coral loss, seaweed loss, loss of other living organisms or accumulation of any unwanted organism in your aquatic environment.