

EVOLUTION
AQUA

INNOVATION IN WATER

airpumpTM
High performance air pump

INSTALLATION AND OPERATING MANUAL

**PLEASE READ ALL OF THE INSTRUCTION MANUAL BEFORE
ATTEMPTING TO INSTALL OR OPERATE THE VARIPUMP.**

In the unlikely event the pump is supplied with a plug in the UK, this can be cut off and removed, as the mains supply cable should be wired into a safe, compliant, outdoor electrical system, with an RCD cut-off.

Cutting the plug off will not invalidate the warranty.

WARNING: PLEASE READ THE FOLLOWING SAFETY INFORMATION FIRST.

IMPORTANT SAFETY INFORMATION

- DO NOT cover this unit.
- Always isolate the unit from mains electricity before carrying out any maintenance.
- Always disconnect all pond appliances from the mains supply before putting your hands into the water.
- Use in the area of the garden pond only if the installation complies with the relevant wiring regulations.
- Power must be supplied through a Residual Current Device (RCD) with a residual operating current not exceeding 30mA.
- This unit must be earthed when earth wire is fitted.
- Never use a fuse larger than 3 amps on the power lead.
- The unit must not be submerged in water.
- The unit must be either fully frost protected or taken inside during Winter months.
- Young children should always be supervised near water.
- To avoid possible equipment electric shock, special care should be taken when the pump is used as aquarium equipment. For each of the following situations, do not attempt repairs yourself, return the air pump to an authorised service facility for servicing, or discard the pump.
 1. If the pump falls into the water, DO NOT REACH FOR IT. First disconnect the pump, and then retrieve it. If the pump's electrical components get wet, disconnect the pump immediately.
 2. Carefully examine the air pump after installation. It should NOT be connected if there is water on parts that are not intended to be wet.
 3. DO NOT operate if the cord is damaged, or if the pump is malfunctioning, dropped, or damaged in any way.
 4. To prevent electrical outlet getting wet, a "drip loop" should be arranged for each cord connecting an air pump to an electrical outlet. The "drip loop" is that part of the cord below the level of the outlet or connector if an extension cord is used. The "drip loop" prevents water travelling along the cord and coming into contact with outlet. If the outlet does get wet, always disconnect the fuse or circuit breaker supplying power to the pump first. Then examine the cable for the presence of water in the outlet.
 5. DO NOT use the pump near volatile liquids such as gasoline, thinners, etc as this creates the possibility of an explosion.
 6. Built-in safety switch system on Air pump 130 / 150 automatically shuts off power.
- In the unlikely event your pump is supplied with a plug, you should cut it off and have the air pump wired into an RCD as described above. Cutting the plug off will not invalidate the warranty.



**UK
CA**



Disposal Of Your Old Product

Your product is designed and manufactured with high quality material and components, which can be recycled and reused. When this crossed-out wheeled bin symbol is attached to a product, it means the product is covered by the European Directive 2002/96/EC. Please contact your local authority about correct disposal for electrical and electronic equipment. Our WEEE Registration Number is WEE/FE1471RR.

Please act according to your local rules and do not dispose of your old products with your normal household waste. The correct disposal of your old product will help prevent potential negative consequences for the environment and human health.



INTRODUCING EVOLUTION AQUA AIR PUMP

Congratulations on purchasing an Evolution Aqua Air Pump. Evolution Aqua Air Pumps have been used by Koi keepers all around the world for over a decade to aerate ponds and filters, and are known for their quality, value and reliability.

Oxygen is vital to all aquatic inhabitants including fish and filter bacteria. Air from an Evolution Aqua Air Pump injects oxygen into pond water, making a healthier environment for fish and biological filters as well as aiding breathing for sick or stressed fish, when medications have been used, or in warm weather.

The Air Pump range has been tested and proven to provide the highest output at any given water depth, and are economical to run. Well engineered, robust and durable, every unit has thermal protection fitted as standard. The Air Pump 130 and 150 also have a built-in safety switch system that shuts off power if there is a problem with the diaphragm or electro-magnet.

Please read this instruction manual carefully.

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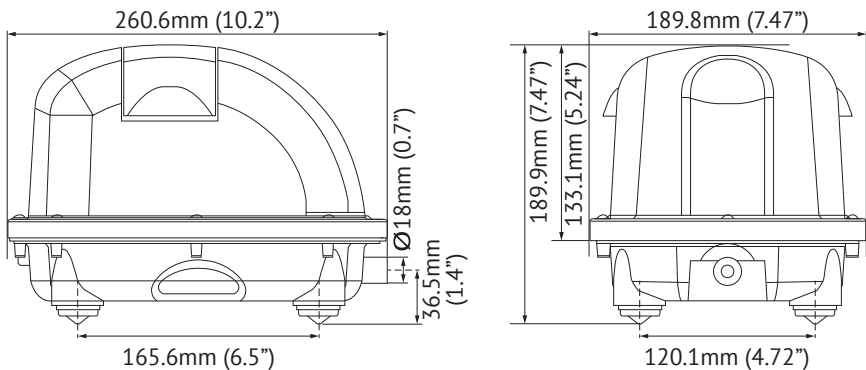
PRECAUTIONS



1. If the pump is mounted below the water level of a filter (e.g. Nexus) it **MUST** have a non-return valve fitted to prevent water siphoning into it if there's a power cut.
2. Close supervision is necessary when an appliance is used by or near children.
3. This pump is intended to deal with clean, dry air only. DO NOT, under any circumstances, attempt operation with water or other liquids, otherwise pump may be damaged.
4. The ambient operating temperature for this pump is between 41°F (5°C) and 104°F (40°C). Operation of pump in temperatures outside the recommended temperature range may result in malfunction or a severely shortened service life.
5. DO NOT block the air being discharged. Pump must have sufficient room to allow for heat dissipation. Extreme operating temperature conditions may cause failure. Pump will automatically switch off until cool. DO NOT REMOVE PUMP CASING UNLESS UNIT IS DISCONNECTED FROM MAINS SUPPLY.
6. Always disconnect the power prior to servicing. Disconnect from power supply correctly and DO NOT pull on the power cord.
7. DO NOT use the air pump other than for its intended use. The use of attachments not recommended or not sold by the air pump manufacturer may not be safe.
8. DO NOT install pump where it will be exposed to weather, do not store pump in temperatures below freezing.
9. Ensure pump is securely mounted prior to operation.
10. Read and observe all important markings on pump.
11. Ensure that extension cords (if required) have the correct or higher rating (amperes or watts). Ensure cord is properly positioned to avoid tripping.
12. To avoid injury, do not contact moving parts or place next to hot parts such as heaters, reflectors, lamp bulbs, and the like.
13. Always disconnect an appliance from an outlet when not in use, before putting on or taking off parts, and before cleaning.

AIR PUMP 70 SPECIFICATIONS

Dimensions



Specifications - UK / EU Models

	Air Pump 70 Complete Kit
Maximum Output - lpm	70 lpm
Output at 1m Depth - lpm	44 lpm
Max. operating depth	3.2m
Power Usage - Watts	39W
Noise level - dBA	<46 dBA
Voltage (VAC)	220 - 240V

Specifications - USA Models

	Air Pump 70 Complete Kit
Maximum Output (USA)	70 lpm
Output at 3.28ft Depth - USA	52 lpm
Max. operating depth (USA)	13.78ft
Power Usage - Watts	48W
Noise level - dBA	<46 dBA
Voltage (VAC) (USA)	110 - 120V

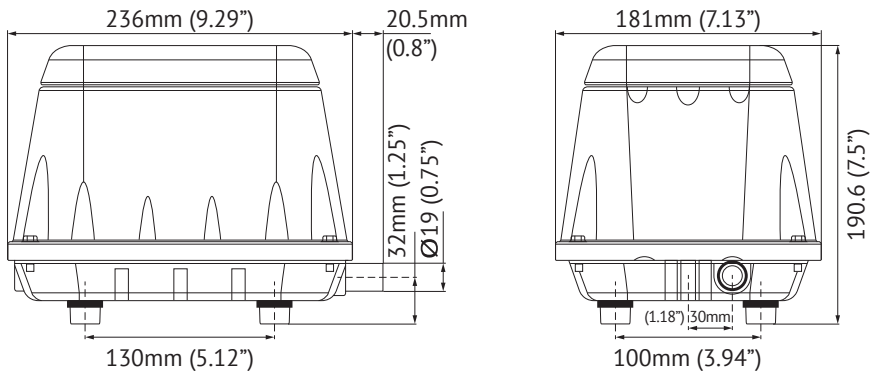
Supplied as a kit with:

- 2 x Air stones
- 1 x 4 tap manifold
- 10 metres of airline



AIR PUMP 75 AND 95 SPECIFICATIONS

Air Pump 75 and 95 Dimensions



Specifications - UK / EU Models

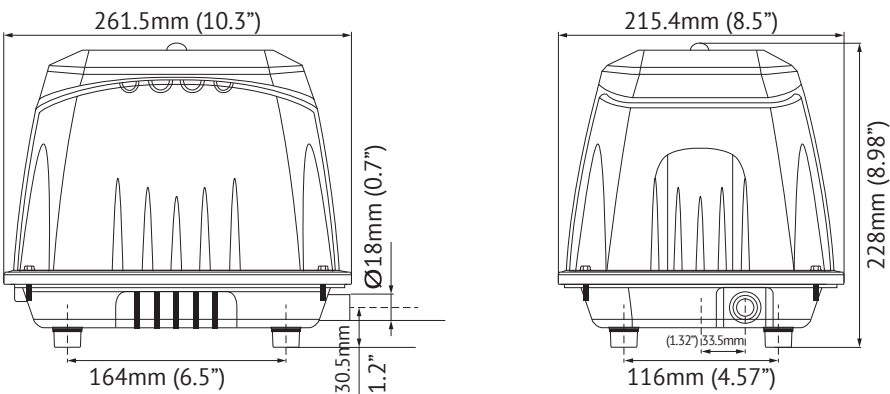
	Air Pump 75	Air Pump 95
Maximum Output - lpm	75 lpm	95 lpm
Output at 1m Depth - lpm	59 lpm	78 lpm
Max. operating depth	3.9m	3.75m
Power Usage - Watts	44W	48W
Noise level - dBA	<46 dBA	<47 dBA
Voltage (VAC)	220 - 240V	220 - 240V

Specifications - USA Models

	Air Pump 75	Air Pump 95
Maximum Output (USA)	75 lpm	95 lpm
Output at 3.28ft Depth - USA	52 lpm	78 lpm
Max. operating depth (USA)	14.43ft	13.45ft
Power Usage - Watts	48W	67W
Noise level - dBA	<46 dBA	<47 dBA
Voltage (VAC) (USA)	110 - 120V	110 - 120V

AIR PUMP 130 AND 150 SPECIFICATIONS

Air Pump 130 and 150 Dimensions



Specifications - UK / EU Models

	Air Pump 130	Air Pump 150
Maximum Output - lpm	130 lpm	150 lpm
Output at 1m Depth - lpm	110 lpm	130 lpm
Max. operating depth	4.4m	5.1m
Power Usage - Watts	91W	112W
Noise level - dBA	<50 dBA	<50 dBA
Voltage (VAC)	220 - 240V	220 - 240V

Specifications - USA Models

	Air Pump 130	Air Pump 150
Maximum Output (USA)	130 lpm	155 lpm
Output at 3.28ft Depth - USA	115 lpm	135 lpm
Max. operating depth (USA)	13.45ft	15ft
Power Usage - Watts	106W	129W
Noise level - dBA	<50 dBA	<50 dBA
Voltage (VAC) (USA)	110 - 120V	110 - 120V

CONNECTION TO THE ELECTRICITY SUPPLY

Electrical installations must be done by a qualified electrician.

The power supply must meet the specifications on the product.

The cores in the supply cable are coloured in accordance with the following code:

UK / EU:

Brown = Live
Blue = Neutral
Green / Yellow = Earth

USA WIRING

Black = Live
White = Neutral
Green = Earth



DO NOT use the supply cable to lift the air pump as this may cause damage.



WARNING - A Residual Current Device (RCD), also known as the Residual Current Circuit Breaker (RCCB), with a tripping current not exceeding 30mA must be installed in the supply circuit. A means of disconnection from the supply having a contact separation of at least 3mm in all poles must be incorporated in the wiring.

In the unlikely event your pump is supplied with a plug, you should cut it off and have the air pump wired into an RCD as described above. Cutting the plug off will not invalidate the warranty.

Caution: Use in the area of the garden pond only if the installation complies with the relevant wiring regulations. Please consult a qualified electrician.

Caution: Always disconnect all pond appliances from the mains supply before putting your hands into the water.

All electrical installations and wiring must be adequately protected to prevent any damage.

Enough electrical cable is supplied with the unit to connect to the mains electric. This unit must be connected to permanent wiring. A switch with 3mm contact separation must be provided in the fixed wiring to provide disconnection from the electricity supply.

Install this product where it will not come into contact with water or other liquids. Install this product where it will be weather protected. Electrically ground this product. Failure to follow these instructions can result in death, fire or electrical shock.

INSTALLING THE AIR PUMP

IMPORTANT - If the pump is mounted below the water level of a filter it **MUST** have a non-return valve fitted to prevent water siphoning into it if there's a power cut.

Mounting

Install this product where it will not come into contact with water or other liquids.

This product must be installed on a flat, horizontal surface. Mounting the product to a stable, rigid operating surface and using shock mounts will reduce noise and vibration.

Plumbing

Remove plug from the OUT port. Connect with pipe and fittings that are the same size or larger than the product's port.

Accessories

Install relief valve and gauge at outlet to monitor performance. A check valve may be required to prevent back streaming through the compressor.

Motor Control

It is your responsibility to contact a qualified electrician and assure that the electrical installation is adequate and in conformance with all national and local codes and ordinances.

Operation

Use only recommended air handling parts acceptable for pressure not less than 10 psi. When provided, motor terminal covers must be in place for safe operation. Product surfaces may become hot during operation. DO NOT direct air stream at body. Air stream from product may contain solid or liquid material that can result in eye or skin damage, wear proper eye protection. DO NOT spray flammable or combustible liquid. Failure to follow these instructions can result in burns, eye injury or other serious injury. It is your responsibility to operate this product at recommended pressure duty and room ambient temperature.

Start Up

If pump fails to start or slows down significantly under load, shut off and disconnect from power supply. Check that the voltage is correct for the pump.

MAINTAINING THE AIR PUMP

Disconnect electrical power supply cord before performing maintenance on this product. If product is hard wired into system, disconnect electrical power at the circuit breaker or fuse box before performing maintenance on this product. Failure to follow these instructions can result in death, fire or electrical shock. Product surfaces may become hot during operation, allow product surfaces to cool before handling. DO NOT direct air stream at body.

Air stream from product may contain solid or liquid material that can result in eye or skin damage, wear proper eye protection.

Clean this product in a well ventilated area. Failure to follow these instructions can result in burns, eye injury or other serious injury.

It is your responsibility to:

- Regularly inspect and make necessary repairs to product in order to maintain proper operation.
- Make sure that pressure is released from product before starting maintenance.
- Never add oil to this oil-less compressor.

Check intake filter after first 500 hours of operation. Clean filter and determine how frequently filter should be checked during future operation. This one procedure will help to assure the product's performance and service life.

Cleaning

DO NOT use kerosene or ANY other combustible solvent to clean product.

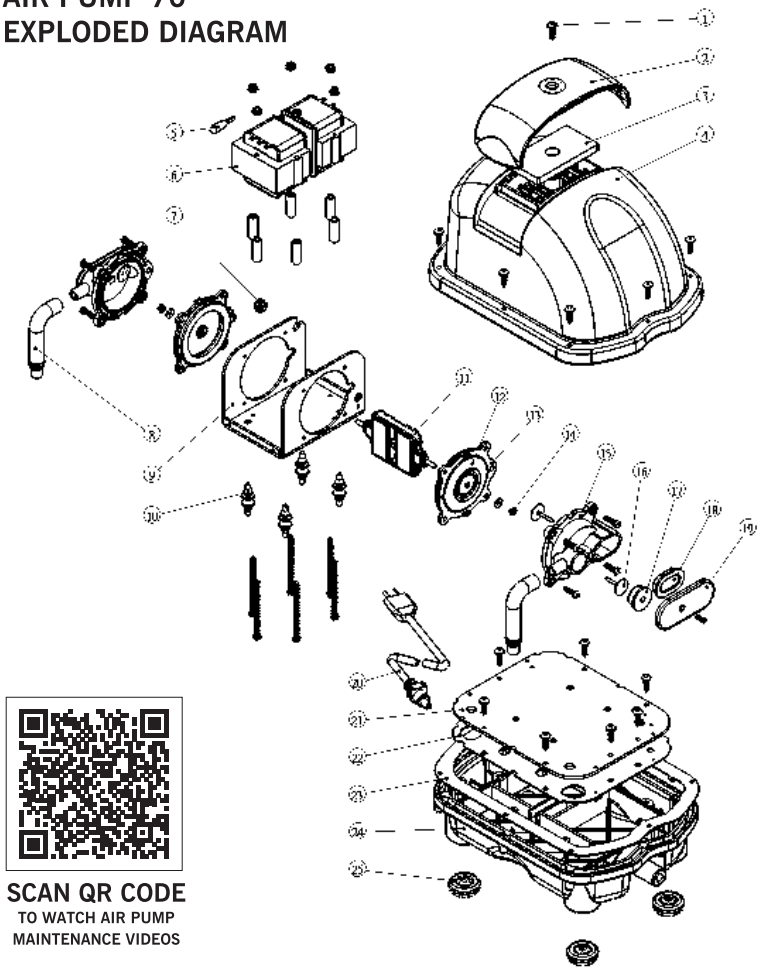
1. Remove filter and clean using detergent and water.
2. Rinse filter well and air dry.

Check that all external accessories such as relief valves and gauges are attached to cover and are not damaged before re-operating product.



SCAN QR CODE
TO WATCH AIR PUMP
MAINTENANCE VIDEOS

AIR PUMP 70
EXPLODED DIAGRAM



SCAN QR CODE
TO WATCH AIR PUMP
MAINTENANCE VIDEOS

NO.	DESCRIPTION	QTY
1	TOP SCREW	1
2	FILTER COVER	1
3	FILTER	1
4	UPPER HOUSING	1
5	THERMAL PROTECTOR	1
6	ELECTROMAGNET	2
7	WIRE STOPPER	1
8	L - TUBE	2
9	U-SHAPED COIL FRAME	1
10	VIBRATION CONTROL RUBBER	4
11	ACTIVATING ARM	1
12	DIAPHRAGM	2

13	DIAPHRAGM FRAME	2
14	U NUT	2
15	DIAPHRAGM HOUSING	2
16	CHECK VALVE	4
17	CHAMBER SEAL (ROUND)	2
18	CHAMBER SEAL (OVAL)	2
19	SIDE COVER (STEEL)	2
20	POWER CORD	1
21	STEEL PLATE	1
22	GASKET-1	1
23	GASKET-2	1
24	LOWER HOUSING	1
25	RUBBER FEET	4

AIR PUMP 70 MAINTENANCE

TO CLEAN THE AIR FILTER

(Recommended once every six months)

1. Loosen the screw on top. (As shown in figure 1)
2. Remove the plastic filter cover.
3. Take the filter out and clean it with clean water and dry it.
4. Put it back and secure the fixing plate with the screw in.

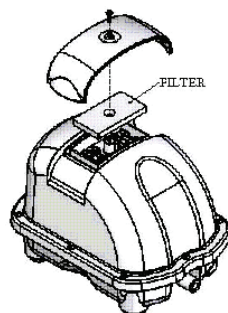


FIG. 1

TO CHANGE THE DIAPHRAGMS

IMPORTANT: To open the upper enclosure, please make sure you have disconnected the power cord before opening.

1. Loosen the eight screws around the plastic upper cover and take the cover off. (As shown in figure 2)
2. Loosen the four screws and disassemble the parts. (As shown in figure 3)
3. Loosen the U-nut in the centre of diaphragm.
4. Take the diaphragm off its place.
5. Replace a new one by mounting the rubber studs into their position.
6. Press the rim of the diaphragm into the ring.
7. Secure the magnet with U-nut and screw and put the diaphragm housing back with the four screws on.

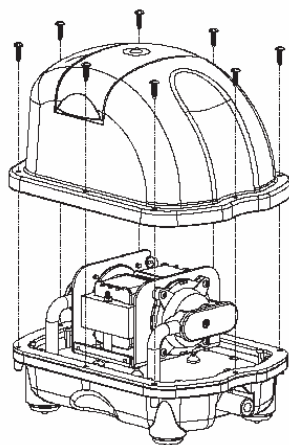


FIG. 2

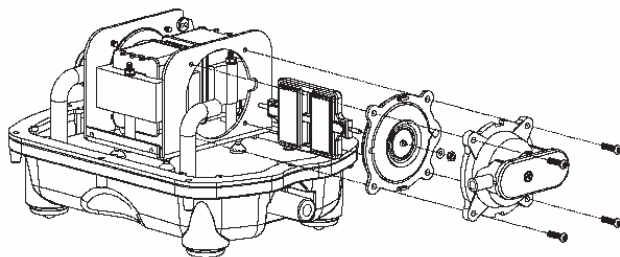


FIG. 3

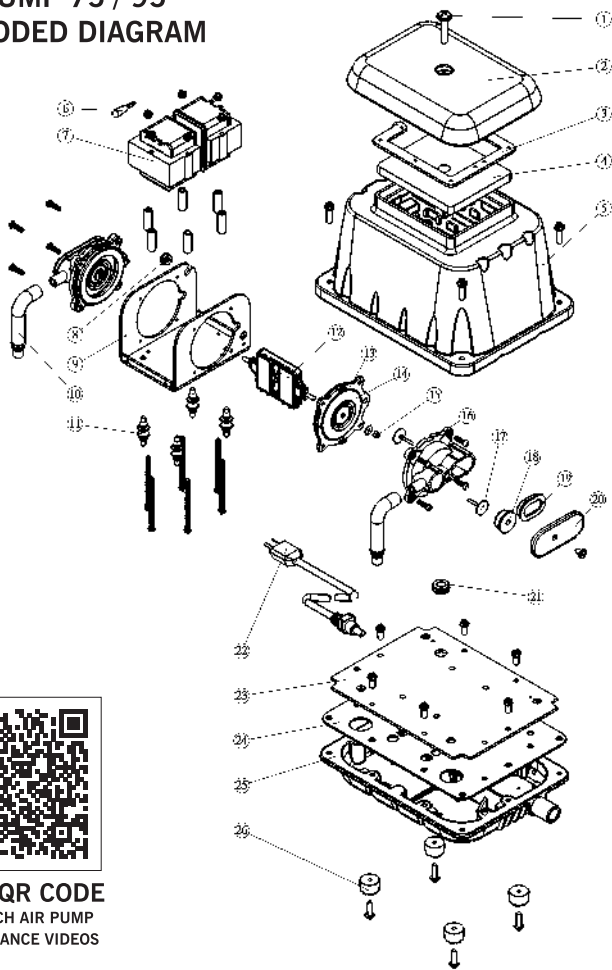


SCAN QR CODE
TO WATCH AIR PUMP
MAINTENANCE VIDEOS

AIR PUMP 75 / 95
EXPLODED DIAGRAM



SCAN QR CODE
TO WATCH AIR PUMP
MAINTENANCE VIDEOS



NO.	DESCRIPTION	QTY
1	TOP SCREW	1
2	FILTER COVER	1
3	FOAM SEAL	1
4	FILTER	1
5	UPPER HOUSING	1
6	THERMAL PROTECTOR	1
7	ELECTROMAGNET	2
8	WIRE STOPPER	1
9	U-SHAPED COIL FRAME	1
10	L-TUBE	2
11	VIBRATION CONTROL RUBBER	4
12	ACTIVATING ARM	1
13	DIAPHRAGM FRAME	2

14	DIAPHRAGM	2
15	U-NUT	2
16	DIAPHRAGM HOUSING	2
17	CHECK VALVE	4
18	CHAMBER SEAL (ROUND)	2
19	CHAMBER SEAL (OVAL)	2
20	SIDE COVER (STEEL)	2
21	CORD PROTECTOR	1
22	POWER CORD	1
23	STEEL PLATE	1
24	GASKET	1
25	LOWER HOUSING	1
26	RUBBER FEET	4

AIR PUMP 75 / 95 MAINTENANCE

TO CLEAN THE AIR FILTER

(Recommended once every six months)

1. Loosen the screw on top. (As shown in figure 1)
2. Remove the plastic filter cover.
3. Take the filter out and clean it with clean water and dry it.
4. Put it back and secure the fixing plate with the screw in.

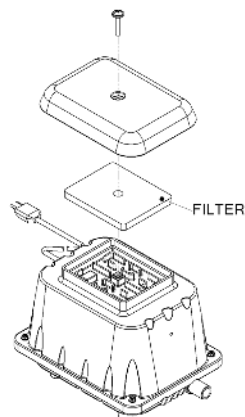


FIG. 1

TO CHANGE THE DIAPHRAGMS

IMPORTANT: To open the upper enclosure, please make sure you have disconnected the power cord before opening.

1. Loosen the eight screws around the plastic upper cover and take the cover off. (As shown in figure 2)
2. Loosen the four screws and disassemble the parts. (As shown in figure 3)
3. Loosen the U-nut in the centre of diaphragm.
4. Take the diaphragm off its place.
5. Replace a new one by mounting the rubber studs into their position.
6. Press the rim of the diaphragm into the ring.
7. Secure the magnet with U-nut and screw and put the diaphragm housing back with the four screws on.

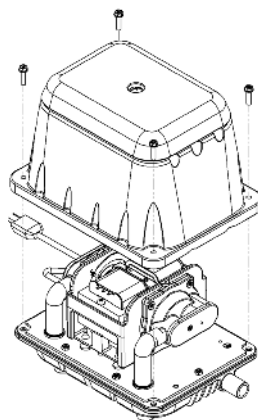


FIG. 2

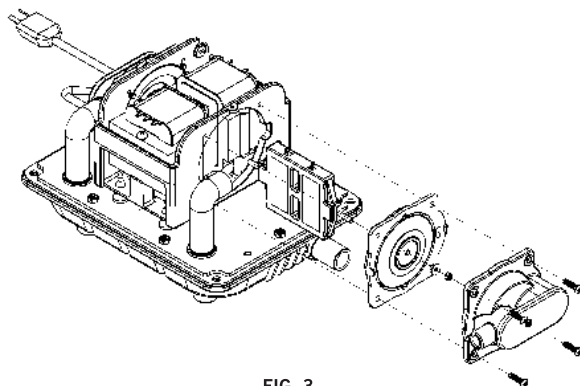
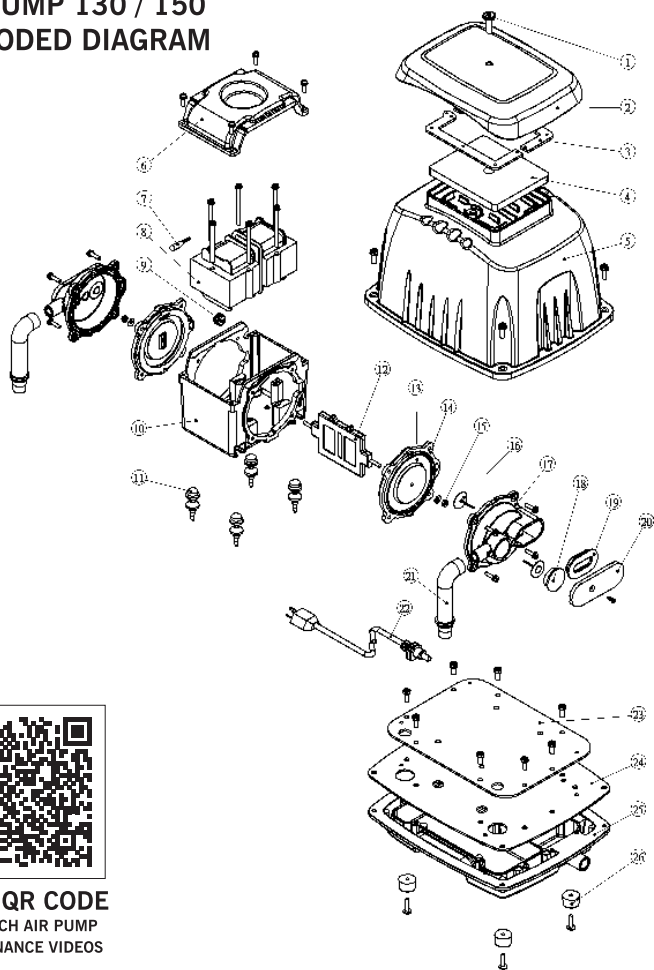


FIG. 3



SCAN QR CODE
TO WATCH AIR PUMP
MAINTENANCE VIDEOS

AIR PUMP 130 / 150
EXPLODED DIAGRAM



SCAN QR CODE
TO WATCH AIR PUMP
MAINTENANCE VIDEOS

NO.	DESCRIPTION	QTY
1	TOP SCREW	1
2	FILTER COVER	1
3	FOAM SEAL	1
4	FILTER	1
5	UPPER HOUSING	1
6	COIL COVER	1
7	THERMAL PROTECTOR	1
8	ELECTROMAGNET	2
9	WIRE STOPPER	1
10	COIL FRAME	1
11	VIBRATION CONTROL RUBBER	4
12	ACTIVATING ARM	1
13	DIAPHRAGM	2

14	DIAPHRAGM FRAME	2
15	U-NUT	2
16	CHECK VALVE	4
17	DIAPHRAGM HOUSING	2
18	CHAMBER SEAL (ROUND)	2
19	CHAMBER SEAL (OVAL)	2
20	SIDE COVER (STEEL)	2
21	L - TUBE	2
22	POWER CORD	1
23	STEEL PLATE	1
24	GASKET	1
25	LOWER HOUSING	1
26	RUBBER FEET	4

AIR PUMP 130 / 150 MAINTENANCE

TO CLEAN THE AIR FILTER

(Recommended once every six months)

1. Loosen the screw on top. (As shown in figure 1)
2. Remove the plastic filter cover.
3. Take the filter out and clean it with clean water and dry it.
4. Put it back and secure the fixing plate with the screw in.

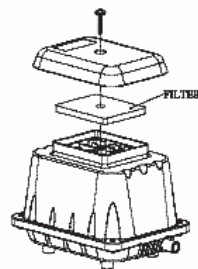


FIG. 1

TO CHANGE THE DIAPHRAGMS

IMPORTANT: To open the upper enclosure, please make sure you have disconnected the power cord before opening.

1. Loosen the four screws around the aluminium upper cover, and take the cover off. (As shown in figure 2)
2. Loosen the four screws around the coil cover, and take the cover off. (As shown in figure 3)
3. Loosen the four screws on two sides of the safety switch first, and remove the bars vertically.
4. Loosen the four screws and disassemble the diaphragm housing.
5. Loosen the U-nut in the centre of diaphragm.
6. Take the diaphragm off its place.
7. Replace a new one by mounting the rubber studs into their position.
8. Press the rim of the diaphragm into the ring.
9. Secure the magnet with a new U-nut screw and put the diaphragm housing back with the four screws on.
10. Place the two plastic safety switch bars back to their position and secure the four screws on both sides. Put on the aluminium cover and secure the four screws firmly.

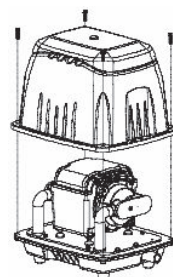


FIG. 2

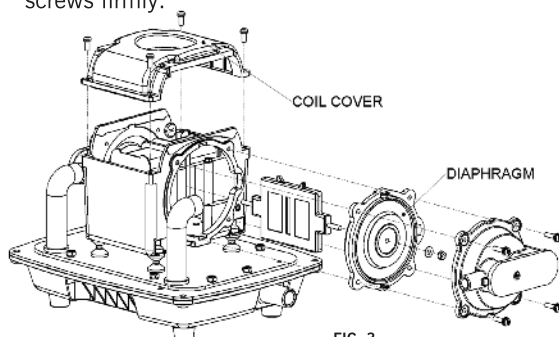


FIG. 3



SCAN QR CODE
TO WATCH AIR PUMP
MAINTENANCE VIDEOS

TROUBLE SHOOTING

The air output has dropped on my air pump, why?

- If there is no obvious blockage or restriction in the air line, it may be that the diaphragm needs to be replaced. These can be purchased from Evolution Aqua and its dealers. Visit our website for more details.

The air pump has become noisy when running.

- It may be that the diaphragm needs to be replaced. These can be purchased from Evolution Aqua and its dealers. Visit our website for more details.

I have replaced the diaphragms, but the air pump still does not work?

- All the parts in the air pump can be replaced, if you have replaced the diaphragms, it may be the electro-magnet that needs to be replaced. In particular, Air Pump 130 and 150 models feature a built-in safety switch system that shuts off power when there is a problem with the diaphragm or electro-magnet.

Are the air pumps waterproof?

- The airpumps are weather proof and can be used outside, they are not waterproof so do not situate in a position where they are likely to be flooded.

How do I prevent water back-siphoning back into the Air Pump?

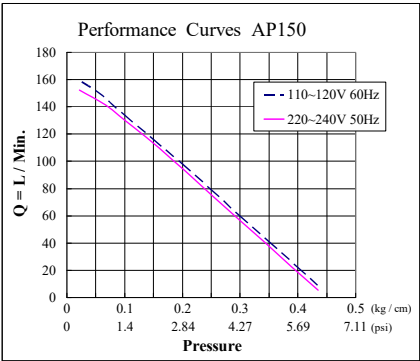
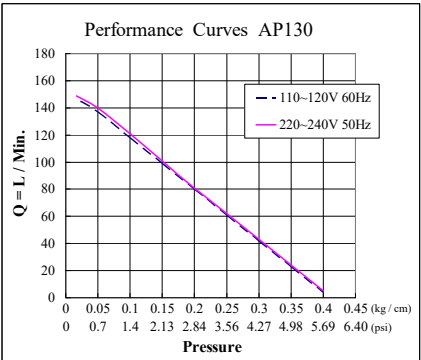
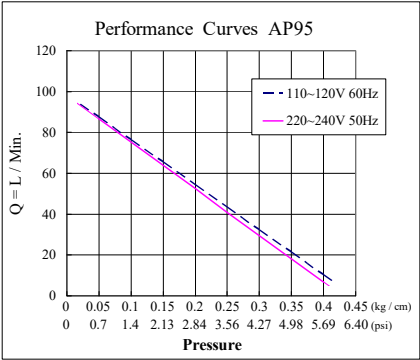
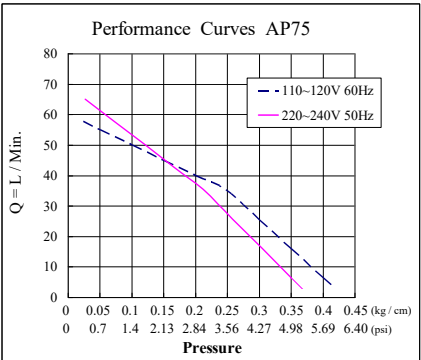
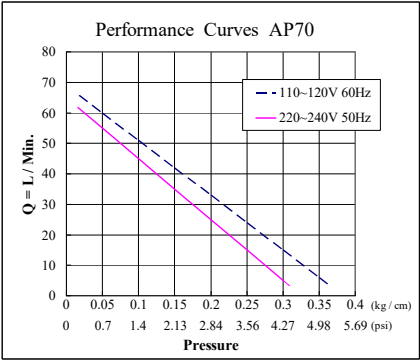
- You must install a non-return air valve on the outlet of the air pump if the pump is situated lower than the water level.

The air pump doesn't seem to be moving the media in the moving bed of the Nexus.

- Check the air pump is the correct size for the amount of media in the outer chamber of the Nexus:

50 - 75 LITRES MEDIA	= AIR PUMP 75
75 - 100 LITRES MEDIA	= AIR PUMP 95
100 - 150 LITRES MEDIA	= AIR PUMP 130
150 - 300 LITRES MEDIA	= AIR PUMP 150

AIR PUMP CURVES



GUARANTEE

This product is guaranteed against defects in material and workmanship for 2 years from the date of purchase, under normal usage. The guarantee DOES NOT APPLY in case of improper use, negligence, lack of maintenance or accidental damage to the air pump. If the air pump fails due to a manufacturing fault within this period it will be either repaired or replaced free of charge. Liability is limited to replacement of the faulty product only; no other costs will be reimbursed. This guarantee is not transferable and does not affect your statutory rights. This guarantee does not confer any rights other than those expressly set out above. The guarantee does not cover the diaphragms and other wearable parts.

The manufacturer or supplier shall not be responsible, or held liable for any damages caused by defective components or materials of this product; or for loss incurred by interruption of service; or any consequential/incidental damages and expenses arising from the production, sale use or misuse of this product or any other consequential loss.

Any warranty claim must be accompanied by a valid, dated proof of purchase.

Evolution Aqua and its dealers shall not be held liable for any loss of fish, plants or any other livestock as a result of any failure or defect of this product.

The installation and use of your product outside of our recommendations as printed in this manual may also void the warranty.

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INSTRUCTION MANUALS

Download instruction manuals for all Evolution Aqua products



PARTS STORE

Find spare parts and accessories for Evolution Aqua products



FAQS

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