

OPTIMA MAXIMA MAXIMA-R

AIR PUMPS



LISTED

85E3
E114229

CONGRATULATIONS

On your purchase of a MAXIMA, MAXIMA-R, or OPTIMA air pump. So that you may enjoy your new air pump to the fullest, please take a few moments to read this instruction booklet to become familiar with the installation and operation procedures. Be certain to read the SAFETY INSTRUCTIONS before using your air pump.

IMPORTANT SAFETY INSTRUCTIONS

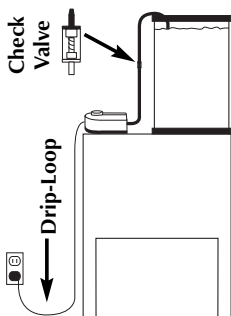
WARNING: To guard against injury, basic safety precautions should be observed, including the following.

1. For the complete enjoyment, use and understanding of this product

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

and all important notices on the appliance before using. Failure to do so may result in damage to the unit.

2. Danger – To avoid possible electrical shock, special care should be taken since water is employed in the use of aquarium equipment. For each of the following situations, do not attempt repairs yourself; return the appliance to the manufacturer for service or discard the appliance.
 - A. **DO NOT immerse in water. If the appliance falls into the water, DON'T reach for it!** First unplug it and then retrieve it. If electrical components of the appliance get wet, unplug the appliance immediately. (Non-immersible equipment only)
 - B. Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.
 - C. Do not operate any appliance if it has a damaged cord or plug, or if it is malfunctioning or if it is dropped or damaged in any manner. The power cord of this appliance cannot be replaced: if the cord is damaged, the appliance should be discarded. Never cut the cord.
 - D. To avoid the possibility of the appliance plug or receptacle getting wet, position aquarium stand and tank to one side of a



wall mounted receptacle to prevent water from dripping onto the receptacle or plug. The **“drip-loop”** (see illustration) should be arranged by the user for each cord connecting an aquarium appliance to a receptacle. A **“drip-loop”** is that part of the cord below the level of the receptacle, or the connector if an extension cord is used, to prevent water travelling along the cord and coming in contact with the receptacle. If the plug or receptacle does get wet, **DON'T** unplug the cord. Disconnect the fuse or circuit breaker

that supplies power to the appliance, then unplug and examine for presence of water in the receptacle.

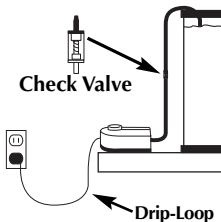
3. Close supervision is necessary when an appliance is used by or near children.
4. To avoid injury, do not contact moving parts or hot parts such as heaters, reflectors, lamp bulbs, and the like.
5. Always unplug an appliance from an outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank cord to pull plug from outlet. Grasp the plug and pull to disconnect.
6. Do not use an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause an unsafe condition.
7. Do not install or store the appliance where it will be exposed to weather or to temperatures below freezing.
8. Make sure an appliance mounted on a tank is securely installed before operating it.
9. Read and observe all the important notices on the appliance.
10. If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less amperes or watts than the appliance rating may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.

SAVE THESE INSTRUCTIONS

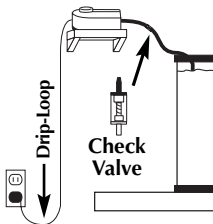
INSTALLATION:

The air pump should be installed by following either of the two recommended methods:

1. Place the air pump on a surface lower than the water level of the aquarium. To avoid damage from accidentally spilled water, do not place the air pump directly below the aquarium. **Important:** It is recommended to always use a Check Valve (sold separately) in the air line between the air pump and the aquarium. The Check Valve will help prevent water from siphoning out of the aquarium through the air hose and into the pump in the event of a power failure, or when removing filters and other air-driven accessories from the aquarium.



2. Place the air pump on a surface higher than the water level, such as a shelf. The surface should be at least 12 inches (30 cm) higher than the water level of the aquarium, but not be positioned directly above the aquarium. The surface should have a raised edge to prevent the air pump from sliding off. Use a Check Valve (sold separately) in the air line between the air pump and the aquarium to prevent back-siphoning.



Once the air pump has been installed, do the following:

1. Attach one end of the air line tubing (sold separately) to the air outlet(s) on the air pump.
2. Attach the other end of the air line tubing to filter(s), air stone(s), ornament(s) or any other air-driven aquarium accessory. Ensure that the airline tubing has no restrictions or kinks.
3. Plug air pump into outlet. Be sure to allow for a **“drip loop”** (see illustration).

INSTALLATION TIPS:

- The pump should be placed in a location which is dry and relatively free from dust. Do not place the air pump on carpet, as fibers might collect on the pump and clog free-flowing air from entering the pump. This will reduce the air output and the service life of the pump.
- Air control valves with multiple outlets may also be used to power additional apparatus in the aquarium. When using multiple air valves, it is recommended to have one more outlet than required by the accessories; this will be used to bleed overproduction of air due to back pressure build up. For more information about backpressure see (BACKPRESSURE).
- Air Pumps can be used to operate a variety of aquarium accessories such as air stones, corner filters, under gravel filters, and ornaments. Follow installation instructions for your particular aquarium accessory product.

CAUTION:

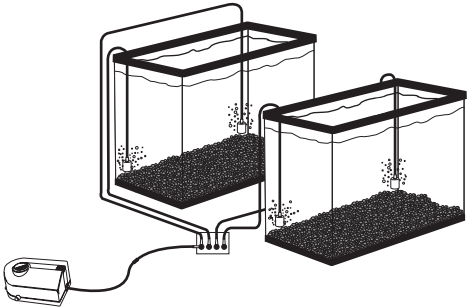
Care must be taken during installation to ensure that water cannot siphon out of the aquarium through the air hose and damage the air pump. To prevent back-siphoning when removing filter(s), airstone(s), ornament(s) or any other air-driven aquarium accessory from the aquarium, do the following:

1. Install a Check Valve
2. Leave the pump running while you disconnect the tubing from the pump. Disconnect tubing and tape this end of the tubing to the very top frame of your aquarium.
3. Filter(s), air stone(s) and other air-driven ornaments can now be safely removed from your aquarium.

AIR FLOW ADJUSTMENT

The MAXIMA-R and OPTIMA air pumps incorporate a rheostat to control air output. Turning the knob clockwise increases the air flow and counter-clockwise reduces the air flow. Proper use of the rheostat reduces harmful back pressure and lengthens the service life of the pump. The MAXIMA air pump is not equipped with a rheostat; in which case an air control valve can be used to regulate air output (sold separately).

In order to achieve correct airflow, a balance between the valve setting and the pump output is necessary. The ideal setting is obtained by minimum back pressure or nonrestriction of flow of air. Never physically restrict the output of the pump. Restriction causes damage to the diaphragm. (SEE BACK PRESSURE). Adjust air valve output as required.



To regulate air volume using an air control valve with multiple outlets, it is recommended to have the last valve available to release excess air pressure build up (see BACK PRESSURE). In regulating the air pressure, it is best to work from the valve farthest from the input of the air valve. Remember to have the last valve completely closed so as not to lose any air pressure. Proceed to make adjustments on the remaining valves. Once the adjustments are complete slowly open the last valve to the point where no loss of air output is noticed from the items controlled by the other valves. To achieve and maintain an equal balance of air pressure to the accessories in the aquarium, further adjustments of the air valve may be required depending on the items powered by the air pump.

Note: If the first valve on the air control assembly is fully opened, air volume to the remaining outlets will be reduced.

To alleviate excess air pressure or overproduction of air, it is recommended to open the last valve every 2 weeks, or when

required. In doing this, you will increase the life of the pump and diaphragms by preventing premature wear.

BACK PRESSURE

Back pressure is the buildup of pressure on the diaphragm due to restricted air flow. This occurs when excess air is produced by the air pump, or when the air channels are inadvertently blocked. Back pressure over time resulting from clogged air stones or other air system blockages and restrictions will cause the diaphragm to expand or rupture. An expanded diaphragm leads to a loss of air volume while a rupture results in the total loss of air.

MAINTENANCE (EXTERNAL APPEARANCE)

Remove dust and grime with a soft, damp cloth. Do not immerse pump in water.

AIR STONE, AIR LINE, AND ORNAMENT MAINTENANCE

This pump requires no regular internal maintenance during its life. The rest of the air system should be periodically checked and cleaned.

- Air lines should be carefully inspected whenever standard aquarium maintenance is performed. Adjust, or if required, replace all sections which are pinched, kinked, or otherwise damaged.
- All attached air-driven aquarium ornaments should be regularly maintained. Algae growths should be removed from moving parts and kept as clean as possible. Internal air tubes should be cleaned.
- Air stones should be kept clean and free of debris or algae build-up. The ideal situation is to replace them every month, alternating with an extra set which has been dried over that period and cleaned before being placed in the aquarium. Two complete sets of air stones alternately changed each month will extend the life of the air stones and help keep back pressure to a minimum.

Clogged air stones and air-driven aquarium ornaments will lead to low air pressure output and also reduce the life of the diaphragms.

TROUBLESHOOTING TIPS

If the air pump fails to produce air, check the following:

1. Ensure that the air pump is plugged in.
2. Ensure that there are no blockages in the air hose assembly and that all valves allow air passage. If no air is produced by the accessories in the aquarium, remove the airline from the pump and ensure that air is being produced.
3. If the air pump produces no output, the most common problem encountered with any air pump is a ripped or weakened diaphragm. Inspect the diaphragm for tears or rips. Any opening in the diaphragm will make it impossible for the pump to produce air for aeration purposes. Always inspect the diaphragm first before replacing other parts in the pump.

REMOVING THE PUMP

Whenever the air pump must be shut off and removed from the aeration system, always take off the air line before the pump is unplugged. This will prevent water from siphoning back into the pump. If the air line cannot be removed before unplugging the power cord, raise the pump above the water level.

REPLACEMENT PARTS

Repair kits for all wearable parts are available for all ELITE, MAXIMA, MAXIMA-R, and OPTIMA Air Pumps. These can be easily obtained at your local aquarium and pet supply store. Failure of the electric coil, or any other electrical part requires proper service, and should be returned to the manufacturer for repairs or replacement. (see warranty for full details).

Art. #A-18030: Elite 799 Repair Kit

Art. #A-18080: Elite 800/801/802 Repair Kit

Art. #A-18190: Elite 803 Repair Kit

Art. #A-18285: Maxima/Maxima-R Repair Module

Art. #A-18330: Maxima/Maxima-R/Optima Repair Kit

Art. #A-18335: Optima Repair Module



ACCESSORIES



Elite Check Valve

Art. #A-1165

Prevents damage to air pump from back-siphoning in the event of electrical power failure or when removing air-driven ornaments and accessories from aquarium.

Elite Air Control Valves

Customize your aquarium set-up with Elite Air Control Valves.

Art. #A-1178: Elite 2-way Air Control Valve

Art. #A-1179: Elite 3-way Air Control Valve

Art. #A-1180: Elite 4-way Air Control Valve

Art. #A-1181: Elite 5-way Air Control Valve



Elite Flex-Air Tubing

Soft, pliable tubing that will not harden. Remains kink-resistant for long periods. For filters, pumps, valves, air-driven aquarium ornaments and accessories.

Art. #A-1123: Elite Flex-Air Tubing
3 M (10 ft)

Art. #A-1124: Elite Flex-Air Tubing
6 M (20 ft)



QUESTIONS?

If you have a problem, or have questions about the operation of this product, please let us try to help you before you return the product to your dealer.

Most problems can be handled promptly with a toll-free phone call. Or if you prefer, you can contact us on our web site at **www.hagen.com**

When you call (or write), please have all relevant information, such as model number and/or part numbers available, as well as the nature of the problem.

CALL US ON OUR TOLL FREE NUMBER: 1-800-724-2436

Between 8:30 a.m. and 4:00 p.m. Eastern Time. Ask for Consumer Service.

FOR AUTHORIZED GUARANTEE CONSUMER SERVICE: Return unit with dated receipt plus \$5.00 for shipping and handling to: Rolf C. Hagen (U.S.A.) Corp., Consumer Repair, 50 Hampden Road, Mansfield, MA. 02048

WARRANTY

MAXIMA, MAXIMA-R AND OPTIMA Air Pumps are guaranteed against defects in material or workmanship under normal aquarium usage and service for as long as you own your pump. We offer a Lifetime Limited Warranty on all non-rubber parts which means that the pump will be repaired or replaced at the manufacturer's discretion, free of charge, when the complete pump is returned with proof of purchase and postage paid. Please include \$5.00 to cover shipping and handling. This warranty does not apply to any pump which has been subjected to misuse, negligence, or tampering. No liability is assumed with respect to loss or damage to livestock or personal property irrespective of the cause thereof.



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WARRANTY REGISTRATION CARD

Return to validate your guarantee.

Or, if you prefer, you may register on our web site at www.hagen.com

Name: _____

Address: _____

City: _____ State: _____

Zip Code: _____ Telephone: _____

Date Purchased: _____

Store: _____

City: _____ State: _____

Was this a gift? YES NO

Is this your first aquarium? YES NO

Size of Aquarium: _____

Type(s) of Fish: _____

ELITE 799
(A-799)

ELITE 800
(A-800)

ELITE 801
(A-801)

ELITE 802
(A-802)

ELITE 803
(A-803)

MAXIMA
(A-805)

MAXIMA-R
(A-806)

OPTIMA
(A-807)