

## **Manual AquaForte DM-Vario**

DM-Vario 10 000, DM-Vario 20 000, DM-Vario 30 000

AquaForte pumps are carefully inspected and tested to ensure both safety and operating performance. However, failure to follow the instructions and warnings in this manual may result in pump's damage and/or serious injury. Be sure to read and save this manual for future reference.

## **Control and Panel Function:**

1. LED display and controller key instructions

LED display indicates power, start/stop and fault code.
The 3 touch control buttons are used for start/stop, slower, faster.



## 2. Operating instructions

The controller is not waterproof, it must be installed dry and protected from direct sunlight!

Always plug the pump cable in the controller first before you put the power cable in the electrical socket!

Always unplug the power cable from the electrical socket first before you unplug the pump cable from the controller!

After connected with pump, the controller will go to the last selected operation, panel is shown on LED. Touch the start/stop button, the pump will stop working, the display shows "\_OFF". Touch the start/stop button again, the pump will resume working. Led shows normal display "PXXX" where "P" is short for Power, XXX stands for the wattage. You can change the speed of the pump from 30% to 100% ("F030" to "F100" where F stands for Flow). After one second the display goes back to the PXXX display to show the wattage the pump consumes in this selected speed.

#### 3. Key Lock Function

Turn on the power, press the start/stop button for 3 seconds until the LED light flashes 2 times, the controller is now locked. Similarly, press the start/stop button for three seconds again, the LED indicator light ashes for two times, the controller is unlocked again.

#### 4. Screen saver mode

Turn on the power, and do not touch any touch control button for more than 25 seconds, the LED changes to micro bright, the controller goes in screen saver mode; the display returns to normal when you press any button.

#### 5. Data memory function

The memory function ensures that the pump goes back to the last selected speed.

### 6. Error code and description

The Error code starts flashing to indicate an operation error:

Er01: Abnormal Working current; Er02: Controller overheating; Er03: Pump idling;

Er04: The impeller stops running; Er05: Abnormal Working voltage.

## Performance parameter table:

Model	Voltage	Controller	Consumption	Flowrate	Max. Head
10 000	AC220-240V 50/60Hz	100 W	15-85 W	4 - 10m³/h	5.0 m
20 000	AC220-240V 50/60Hz	200 W	34-187 W	9 - 20 m <sup>3</sup> /h	6.5 m
30 000	AC220-240V 50/60Hz	400 W	45-385 W	12 - 30m³/h	8.0 m

## Warning:

- Do not connect to any voltage other than that shown on the rating label of the pump.
- Do not pump flammable liquids. The pump is only intended to be used in ponds.
- -The maximum operation depth is 1.5m. Do not use with water above 35°C
- The supply cord cannot be replaced. If the cord is damaged the appliance should be scrapped.
- The pump is not intended for use by young children or infirm persons without supervision.
- To protect against the risk of electrical shock, do not immerse the plug in water or other liquid.
- 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.

**Note**: for outdoor use, the power socket must be installed with the leakage current protecting device, and the leakage current shall not exceed 3,5mA.

#### **Caution:**

Always disconnect from electrical outlet before cleaning, maintenance and handling the pump. Don't operate without water. Do not lift the pump by holding the power cord. Do not use the pump in liquids having a temperature exceeding 35°C. Use the pump only in freshwater. Please use the pump only when it is completely submerged in water. Do not use the pump in swimming pools!

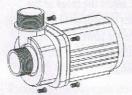
#### Installation:

The pump is suited for both wet and dry applications. In a dry setup the pump must be under water level as it is not self-priming. For dry setup the external strainer house must be removed for the connection of the pipe fittings.

The pump has a dry-running protection function; when the water level is lower than the pump inlet, the pump will automatically stop after 2 minutes. It will try again after 30 seconds. If there is still no water the pump will completely stop. You can reset this by removing the power cable from the power outlet and plug it back in.

Under water, the pump must take in as clear as possible water. Never place the pump in a muddy area or on sandy pond bottoms. Put the pump on a small pedestal (e.g. a stone). Ignoring these instructions can cause blockage of the strainer house around the pump. Heavily polluted water will cause problems for the rotor to run smooth and the pump performance will decrease. In a worst case scenario the rotor will totally block and the pump will burn out. Complete blockage of the pump strainer house will prevent motor cooling which can cause burn outs.

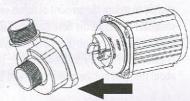
## Maintenance: Always unplug power cord before handling the pump!



1. Remove the 4 screws



2. Turn pump house 45° counter clockwise (Note! Only for DM30000)



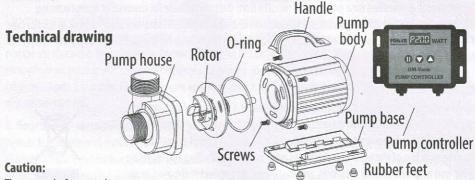
3. Pull the pump house away from the pump body



4. Take rotor out and clean with water and brush



5. Put pump body in a vertical position and fill with a mild lime scale remover (like cleaning vinegar). Immerse rotor in a plastic bowl/container filled with the same lime scale product and leave both for 24 hours. After 24h rinse off with water and re-assemble pump.



The pump shaft cannot be removed:

If the pump fails to operate, check the following:

- Check the outlet and try another outlet to ensure the pump is getting electrical power.
- NOTE: Always disconnect from electrical outlet before handling the pump.
- Check the pump outlet and tubing for kinks and obstructions. Algae may block them, please flush out the algae with a garden hose.
- Check the inlet to ensure it is not clogged with debris.
- Remove the pump inlet to access the impeller area. Turn the rotor to ensure it is not broken or jammed.
- · Monthly maintenance will prolong your pump's life.
- NOTE: Ensure that the electrical cord loops below the electrical outlet to form a "Drip Loop". This will prevent water from running down the cord into the electrical outlet.

Operation:

A clogged or dirty intake screen will greatly reduce performance. If the pump is used on a dirty surface, raise it slightly to reduce the amount of debris contacting the intake. If less flow is desired, adjust the speed on the controller to restrict the flow. Do not let the pump run when not submerged in water (or positioned below water level, this may damage the pump. Always submerge the pump first and then plug in the power cable. In the beginning it probably can't pump water because there can be air in the pump and the pipe system. Do not worry about this, pull out the power cable and insert it again a few times, it will work normally.

Calcium/Limescale problems

When you find calcium/limescale deposits inside the motor house this implicates that the pumps becomes too warm during use! Calcium/lime scale expands above temperatures of 55°C. With sufficient flow, the pump is water cooled and cannot reach these temperatures. If, however, the head pressure is too big (too small pipe system, maximum pump head (pressure loss) too big, etc) the flow will be reduced which causes insufficient cooling and by this, calcium deposits. In a worst case scenario the calcium/timescale layer will get so thick that it blocks the rotor and the motor will burn out. You can remove calcium/lime scale deposits with commercial de-scaling products or cleaning vinegar.

# DAMAGE CAUSED BY CALCIUM/ LIME SCALE IS NOT COVERED BY WARRANTY!

**Limited warranty:** 

This product is guaranteed for a period of 24 months from date of purchase for material or manufacturing defects. Guarantee consists in guaranteed substitution of defective parts. Guarantee is considered to void in case of improper use, or damages caused by improper handling or negligence on the part of the buyer. All equipment must be sent postage paid.

Disposal

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary. This product must not be disposed together with the domestic waste. This product has to be disposed at an authorized place for recycling of electrical and electronic appliances. By collecting and recycling waste, you help save natural resources, and make sure the product is disposed in an environmental friendly and healthy way.



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