

RECYCLING



Do not throw this controller into a normal bin container; it must be taken to a special spot for the treatment of residues. It contains a lithium battery.

WARRANTY

The warranty doesn't cover:

- Damages caused by wrong installation.
- Damages caused by inappropriate use.
- Damages caused by the wearing of function.
- The costs of transport to the repair centre.

To have the right to the warranty the invoice must be accompanied with the product.

Warranty Certificate Card

Model

Reef Motion

1.5KDC

2.3KDC

4KDC

Purchase date

__/__/____

8KDC

12KDC

Dealer stamp

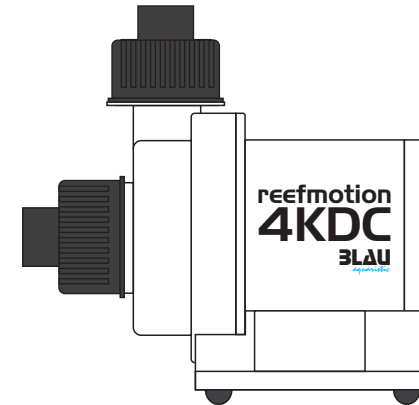
Serial Number

BLAU
aquaristic

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ESB61097879
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ENGLISH

Operation Manual



Reef Motion DC 1.5, 2.3K, 4K, 8K, & 12K

Ref. 7795015 Reef Motion 1.5KDC
Ref. 7790202 Reef Motion 2.3KDC
Ref. 7795004 Reef Motion 4KDC
Ref. 7795008 Reef Motion 8KDC
Ref. 7795012 Reef Motion 12KDC

BLAU
aquaristic

Reef Motion 1KDC, 2KDC, 4KDC, 8KDC and 12KDC

The Reef Motion KDC water pumps from Blau Aquaristic are last generation pumps, designed to offer the best features with the minor electric consumption. Can be used for sweet and sea water.

Before installing and use of these pumps, we recommend the reading and understanding of these instructions.

Features:

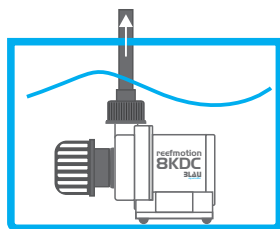
- External digital controller that allows the regulation from 0 to 100% of the pump's power.
- Progressive start.
- Protection against overheating, with subsequent self-start.
- Protection of the pump if it is used dry.
- Energy savings of 50% compared to similar pumps.
- Port of entry 1-10v for its regulation by means of an aquarium computer.
- The controller allows the use of 2 level sensors.

Composition of the set:

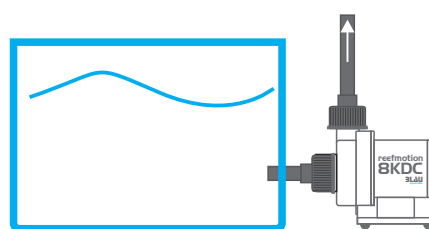
- Reef Motion DC pump.
- External controller.
- Inlet and outlet hose adapters.
- Protection grid.
- Power supply. Tension adapter (AC 100-240v 50/60 Hz a 24v).
- Adapter cable.

Installation:

- It can be installed in aquariums and ponds.
- The transformer and controller are not water resistant; they have to be placed in a dry place protected from splashes.
- The pump has to be connected to a suitable power source, if for some reason it can't be connected to the supplied, use a power source with the same characteristics (equal voltage, equal amperage, and equal polarity of the connector).
- Connect the pump to the controller, and this to the power source.
- Follow the controller instructions for an optimised use of the pump.
- These pumps can be installed submerged as externally.

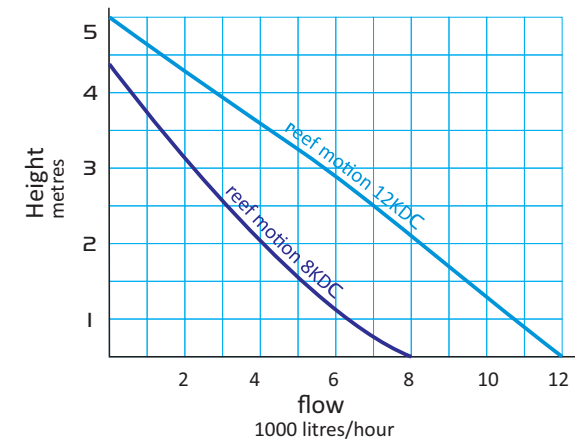
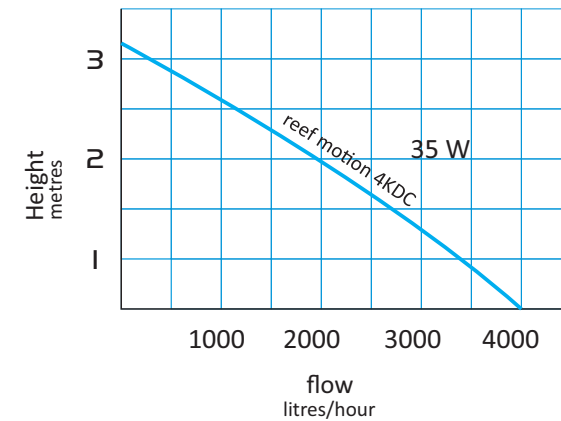
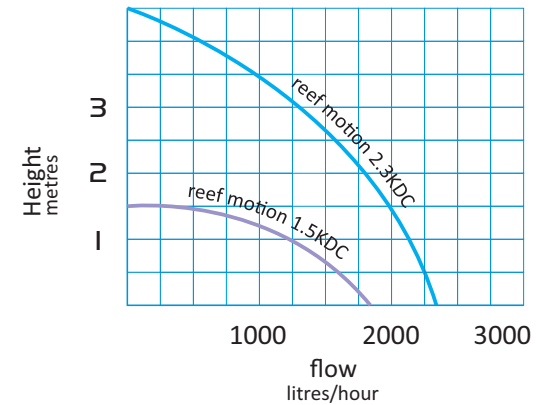


internal



external

Height/flow diagram.



Reef Motion Controller Instructions



Controller for Blau Aquaristic Reef Motion Pumps.

Before its installation or use, we recommend the reading and understanding of these instructions.

Features:

- Allows the digital control from 0 to 100% of the pump's power.
- Internal clock.
- 2 ports to connect level sensors.
- 1 port 1-10 vol. for the pump's external controller for an aquaristic computer.
- Possibility of programing 3 periods of 5 minutes feeding, lowering power up to 30%.
- Protection standards: IPX4
- Progressive starter of the pump.
- Pump's auto-protection with auto-start.

Composition of the set:

- Controller.
- Velcro type adhesive label for fastening.
- Screws for fastening.

Installation:

- It is recommended to place the controller in a dry and aired place.
- Avoid continuant water splashes.
- Under any concept should it be placed under water.
- If the level sensor ports or 1/10 v are not in use, keep the lids on.
- This controller is for internal use, it can't be used in the outdoors.

Instructions:

- Timing the internal clock
 - Press at the same time the [+] and [-] buttons during 1 second.
 - With the [II] button select hours or minutes.
 - With the [+] and [-] buttons, increase or decrease the hours or minutes.
 - Press at the same time the [+] and [-] buttons during 1 second to save the selection.
- Setting up the feeding time (decreasing the power down to 30% during 5 minutes):
 - Press at the same time the [+] and [-] buttons during 1 second. Press twice the [II] button, the superior left red led will switch on, you are now in the «1rst feeding time» mode.
 - With the [II] button select hours or minutes.
 - With the [+] and [-] buttons increase or decrease the hours or minutes.
 - Press at the same time the [+] and [-] buttons during 1 second to save the selection.



The superior right pilot will switch on to indicate that it has been saved.

Do the same operation for the feeding periods 2 and 3.

If you do not wish to setup the feeding periods, select the time 00:00, it will appear 0:FF on the LCD screen, and save the selection pressing [+] and [-] buttons.



Pump Power Regulation:

- With the [+] and [-] buttons select the desired power for the pump. By pressing continuously the selection it will jump from 5 to 5.
- By pressing the pause [II] button, the pump will stop completely until you press the button again.

Level sensor (not included):

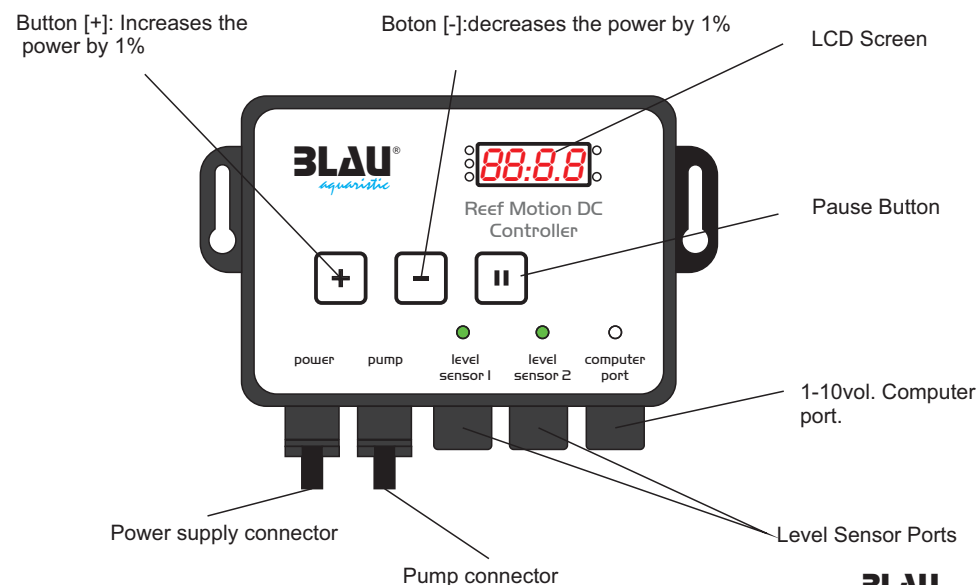
Up to two level sensors can be connected to the controller. Depending on the type of sensor, at the moment of making contact (closing the circuit) will stop the pump avoiding water overflow or dry running.

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When the pump functions with normality the indicators of the sensors are green, in the case the sensor changes position and the pump stops, the indicator will change to red.

Pump controller by 1/10 vol system

This controller allows the pump to be controlled by external systems, as computers for acuariofilia. For that, a type of connector as a jack must be introduced in the port 1-10 vol. (computer port).



Error messages:

E.0: High temperature of the pump. Revise if the pump has the rotor obstructed, or the entry or exit of the water is blocked. The pump will stop and it will start automatically just in case the problem has been solved.

E.1: Error in the controller. Disconnect and connect again the power supply. In the case that the problem is not solved change the controller.

E.2: Error in the pump. Electrical error. Blocked pump. Unstable power source voltage or inadequate for the power consumption of the pump. Change the power supply.

E.3: Problems in the pump: dry running of pump, obstruction of the pump or problems in the axis of the pump. The pump will stop one minute and will restart up to 5 times by itself, if this operation does not solve the problem it will automatically turn off; To reset it, you will need to disconnect the power supply from the electrical network for about 30 minutes. To solve the problem, disassemble the rotor and clean it. Make sure that the rotor and bearings are properly positioned and aligned with the pump shaft.

In case of dry running raise the water level.

L.0: Overheating of the pump for functioning with low water flow.

L.1: Error in the level sensor. Check the sensor and change it if necessary.

ATTENTION

- 1- Make sure to place each connector in its place.
- 2- Do not connect the power source to any of the three ports.

Technical Data

	RM 1.5KDC	RM 2.3KDC	RM 4KDC	RM 8KDC	RM 12KDC
Maximum Flow:	1800 l/h	2300 l/h	4000 l/h	8000 l/h	12000 l/h
Maximum Height:	3,5 m (11,5 ft)	4,5 m (14,8 ft)	3,2 m (10,5 ft)	4,3 m (14 ft)	5 m (16 ft)
Power :	18w	28w	35w	70w	95w
Power supply:	24v 1A	24v 1,5A	24v 3A	24v 5A	24v 6A
Water Inlet:	16/20 mm	20 mm	25 mm	32mm	32 mm
Inlet screw:	1"	1"	1 1/4"	1 1/2"	1 1/2"
Water Outlet:	20 mm	20 mm	25 mm	32 mm	32 mm
Outlet screw:	1"	1"	1 1/4"	1 1/2"	1 1/2"
Dimensions:	121x62x107	121x73x118	164x95x155	205x108x171	205x108x171

Maintenance:

- The entry of particles or other elements in the impeller can damage it, and therefore the proper functioning of the pump. Avoid it functioning in water with suspended particles.
- Always unplug the pump from the power source when you do the servicing.
- A regular maintenance will make the pump's life span longer.
- Clean leftovers that can get tangled in the blades of the impeller.
- Clear all the particles or residues that can have entered the impeller.
- To remove the leftover calcarian incrustations, the pump can be submerged in a vinegar and water bath, never in a strong acid during hours.

PROBLEM RESOLUTION

In case the pump doesn't work:

1-Review if an error message appears in the pump's controller and consult its meaning in your manual.

2-Check that the connections are correct and the controller is illuminated.

3-Check that the entries and exits of the pump are not obstructed.

4-Clean the impeller. If it does not turn, it may be blocked, remove it from the pump and verify that it turns the ceramic bearings. Clean possible sand that may have penetrated the pinwheel space.

ATTENTION



- 1- Do not use the pump in dry.
- 2- Place the controller and the power source out of the reach of splashes.
- 3- This pump is designed to function in domestic aquariums and ponds, do not use it for other liquids.
- 4- Do not use the pump for waters temperature higher than 35°C.
- 5- Do not use the pump with a power source with different parameters than the provided.
- 6- Bin the pump's cable if it's damaged.
- 7- These pumps have to always be handled by adults or under the supervision of an adult.
- 8- Do not pull the pump by the cable.

