

Thank you for purchasing your new SKIMZ Nitrate Reactor that provides optimum performance with maximum safety and reliability.

Model	Body Diameter (mm)	Recommended Feed Pump	Feed Inlet Diameter (mm)	For Aquarium	Code
NM 122	120	300 - 500 l/hr	1/4" (6.35mm)	up to 1000 L	8021-00
NM 152	150	500 - 1000 l/hr	1/4" (6.35mm)	up to 1500 L	8022-00
NM 202	200	1200 - 2000 l/hr	1/4" (6.35mm)	up to 2500 L	8023-00
NM 202H	200	1200 - 2000 l/hr	1/4" (6.35mm)	up to 5000 L	8041-00

SAFETY INSTRUCTIONS

Check that the voltage shown on the label of the pump corresponds to the voltage of the main supply.

Disconnect all electrical appliances from the main before placing your hands in the water.

The pump is protected against overheating. Never allow the pump to run dry.

MAINTENANCE

The effluent drip rate through the reactor have to be checked regularly. Occasionally, you might find it necessary to open the effluent valve all the way to clear any build-up, and then adjust it back to normal. If you notice that the effluent drip rate is not holding constant flow, remove the valve and clean it thoroughly under some warm water.

WARRANTY POLICY

Skimz Singapore LLP (Company) warrants this product to the original purchaser against defective material and workmanship that occurs during normal use of the body for two (2) years and one (1) year warranty on the pump. Company will, at Company's option, either repair or replace without charge.

PRODUCTS COVERED BY WARRANTY

All Skimz equipment is covered by warranty from the date of purchase. To be effective, register your product at: www.skimz.sg/support/register.html within 14 days of the product's purchase date.

Exclusions:

Damage resulting from accident, misuse, lack of reasonable care, subjecting the product to abnormal working conditions or any other failure not resulting from defects in materials or workmanship.

Damage caused by tampering, modification or attempted repair by anyone other than the Company.

Transfer of product to someone other than the original purchaser.

Bring the product to your nearest Skimz dealer or ship the product, together with a copy of the purchase receipt or other evidence of purchase to:

Skimz Singapore LLP

5 Ang Mo Kio Industrial Park 2A
#04-30 AMK Tech II
Singapore 567760

You must pay any postage, shipping charges, insurance costs and other expenses to return the product to Skimz. However, if the necessary repairs are covered by the warranty, Company will pay the return shipping charges.

This product is qualified in accordance with the respective regulations and guidelines and meet EC standards.



QUICK INSTALLATION GUIDE

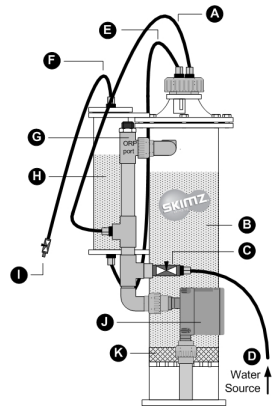
Monzter E-SERIES



NM 122
NM 152
NM 202
NM 202H

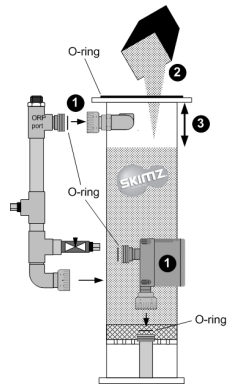
sulphur NITRATE REACTOR





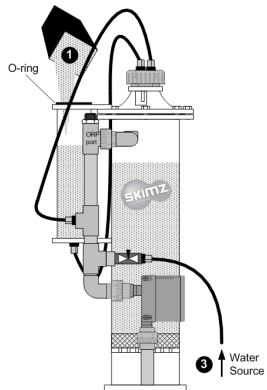
- A. Recirculation
- B. Sulphur media
- C. Water inlet 1/4" speedfit with shut-off valve
- D. Water from aquarium
- E. Water outlet to second chamber
- F. Water outlet to sump tank
- G. ORP port
- H. Second chamber
- I. Water outlet valve (effluent)
- J. Reactor pump
- K. Sponge

STEP 1

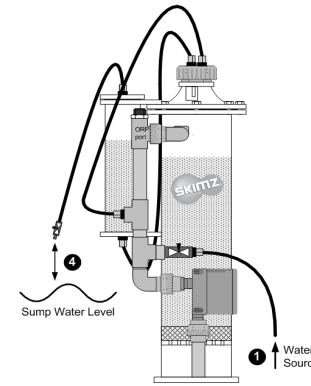


1. Assemble the reactor pump and tighten all union connections as shown on the diagram.
2. Unscrew the lid and pour sulphur media into the reactor chamber.
3. Leave about 3 inches of free space between the top of the reactor and the media. Do not overfill the reactor, media could get sucked into the pump intake.
4. Make sure there is no debris from the media on the o-ring before you replace the lid as this will break the seal. Ensure that the o-ring is in position and tighten the lid onto the body.

STEP 2



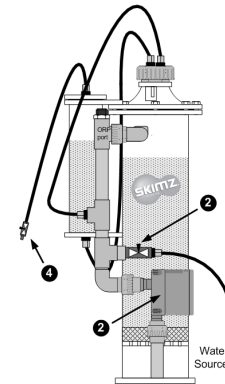
1. Unscrew the lid of second chamber and fill with calcium media up to 3/4". The calcium media in the second chamber is to buffer the pH before it goes into the tank. Inorganic carbon in the form of carbonate is consumed by biological reactions and the pH of the water will tend to become acidic. The water is therefore buffered by the calcium media in the second chamber.
2. Tighten the lid onto the second chamber, having first checked that the o-ring is in position.
3. Using the 1/4" OD tube supplied, connect the water inlet to the water source.



STEP 3

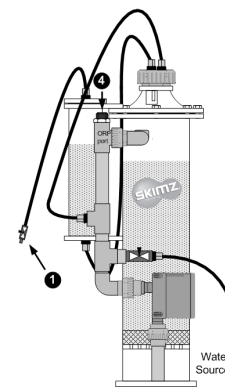
1. The nitrate reactor must be supplied with water from the aquarium. There are different ways to choose the water source:
 - a. Run a supply from feed pump
 - b. Turn off an existing pump
 - c. Using a peristaltic pump
 - d. Gravity feed
2. If you are using peristaltic pump, you can open the water inlet and outlet valve fully as the peri pump will control the flow rate.
3. Using option a. and b. is a more reliable way of feeding a calcium reactor. Install a hose reducer to the pump outlet.
4. Position the water outlet valve several inches above the water line in the sump.

STEP 4



1. During the start-up period, the flow rate should be kept as low as possible. The low flow rate at start up will allow the bacteria to become slowly established.
2. Open the water inlet valve and turn on the feed pump. Once the chamber has filled with aquarium water, switch on the nitrate reactor pump. Verify that there aren't any leaks.
3. Run the reactor open for 24 hours to flush the media and get any air trapped out of the media.
4. Once the water is flowing back to the sump, adjust the outlet valve until the drip rate is 1 drip per second.
5. Test your aquarium's nitrate level and write down the results. Leave the reactor for 3 days to allow oxygen within the reactor to be used up.

STEP 5



1. Test the nitrate level at the outlet on the 4th day. If this has not dropped to zero, wait until it has done so. This can take up to 10 days or longer. Once the nitrate is zero, adjust the drip rate up 1 drip per second. Check again in 3 days.
2. Repeat above steps by adding 1 drip per second while making sure nitrate at the effluent stay at zero.
3. Ultimately you will get an optimum flow rate per hour:
 - NM122 - 10L
 - NM152 - 16L
 - NM202 - 28L
 - NM202H - 63L
4. If you are using ORP controller, remove the plug from the ORP port and install the ORP probe. The target redox reading is between -100 and -250mV, with -170mV being optimal. If the redox above -100mV, reduce the flow rate. If the redox below -300mV, adjust the flow higher.