Reef Aquarium Water Parameters

Below are the water parameters to be tested for and maintained in a reef aquarium.
Make changes slowly as not to shock you aquariums inhabitants.

Temperature Ideal range: 75-79 degrees F

To raise: Adjust heater thermostat slowly.

To lower: Adjust heater thermostat. Fans directed at glass or water surface will lower water temperature in the summer. If water temperature exceeds 84 degrees F, shut down lights and seek advice.

Salinity Ideal range: 1.023-1.025 SG

To raise: Mix salt into a portion of fresh water to make a high-salinity solution. Add very slowly to the aquarium as not to shock inhabitants. Alternatively, add saltwater as tank water evaporates to very slowly raise salinity.
To lower: Remove some water from the aquarium and replace with fresh water.

Remember: Only pure water evaporates. Replace evaporated water with freshwater only.

Carbonate Ideal range: 7-12 dKH

Commonly referred to as "**KH**", "**carbonate hardness**", or "**alkalinity**". Carbonate hardness is essential for the health and growth of the invertebrates in your tank. It is also plays a large part in the stability of your pH. It is consumed by corals and must be tested for and added on a regular basis. The most common unit for measurement of carbonate is dKH.

To raise: Use Brightwell Aquatics "Reef Code B" or similar product.
To lower: Partial water change.

Calcium Ideal range: 420-450 ppm

Calcium is consumed by corals as they grow their calcium carbonate skeletons. It is measured in ppm (parts per million). Calcium consumption will change as your tank matures and must be tested for on a regular basis.

To raise: Use Brightwell Aquatics "Reef Code A" or similar product.
To lower: Partial water change.

Magnesium Ideal range: 1300-1350 ppm

Magnesium is an essential component of coral skeletons, and plays an important role in the balance between calcium and carbonate. If you can't seem to balance your calcium and carbonate, low magnesium is a likely cause.

To raise: Use Brightwell Aquatics "Magnesion" or similar product. If both calcium and magnesium are low, use Brightwell Aquatics "Reef Code A".
To lower: Partial water change.

Ammonia Safe range: 0 ppm

Ammonia is excreted directly by fish and is a product of the breakdown of organics (uneaten food, etc.). It is extremely toxic. It should only be present during the cycling period. Other instances when ammonia may be present may occur when something dies, or too many fish are added at once.

To lower: Partial water change.

Nitrite Safe range: 0 ppm

Ammonia is converted into nitrite by beneficial bacteria. It is only slightly less toxic than ammonia, and should only be present during cycling or the events described above after an ammonia spike.

To lower: Partial water change.

Nitrate Ideal range: less than 10 ppm

The last stage of the nitrogen cycle, nitrite is converted into nitrate. Nitrate is significantly less toxic than ammonia or nitrite, but must be diluted by water changes. Nitrate is food for nuisance algae and will cause some corals to lose color and turn brown.

To lower: Partial water change

Phosphate Ideal range: less than 0.05 ppm

Phosphate is present in many fish and invertebrate foods. It is also present in many water sources. It will encourage algae growth and inhibit coral growth.

To lower: Partial water change. Addition or change of phosphate absorption media.