THE HEAT IS ON!

KEEPING YOUR REEF AQUARIUM COOL OVER THE SUMMER MONTHS

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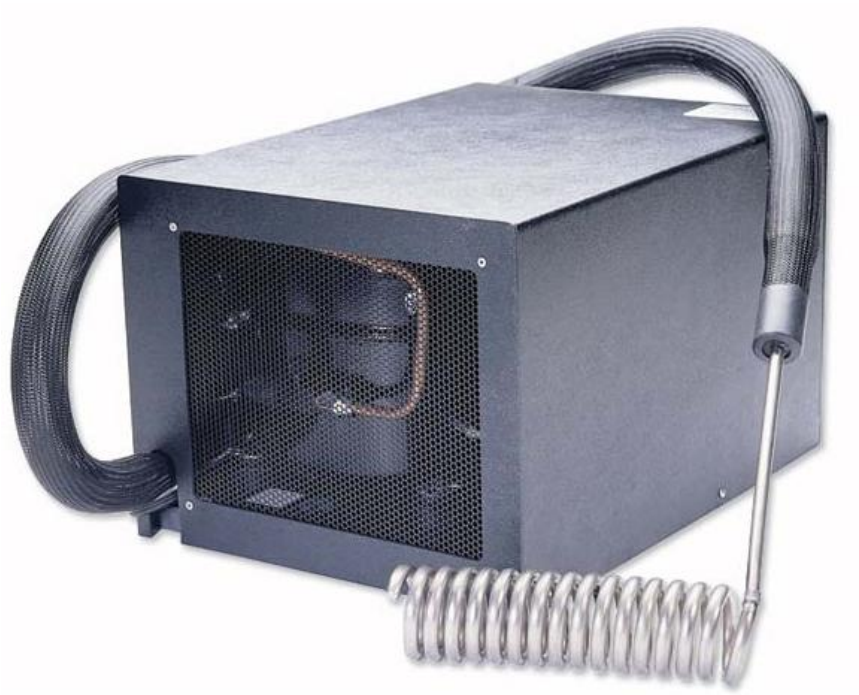

Well summer is upon us and while many of us look forward to the hot days and warm nights, this time of year can cause problems for our aquariums as our houses heat-up. How do we keep our reef aquarium cool during the summer? The first thing to do is consider where the aquarium will be placed in your home, even before you set it up. If you don't want to purchase additional equipment (i.e., a chiller), you should put the aquarium in the coolest area of the house. In the Midwest, a basement is a perfect location. If you do not have a basement, or don't want your tank downstairs, it will be easier to keep the tank cooler if you place it on the first floor rather than an upper floor (remember, heat rises). Also, do not place it in direct sunlight or against an outside wall. Placing the reef tank near an air conditioning duct may prove helpful during the warmer times of year and remember that increased air circulation around the entire tank can facilitate temperature control.

Everyone that has been in this hobby for any length of time, knows that water flow can "make or break" a good coral community. Many of us fail to achieve the optimal level of water flow in

our closed systems. We often increase water circulation by employing submersible pumps in our aquariums. Unfortunately, all submersible pumps generate some heat and some can raise water temperature appreciably. There are some expensive water circulating propeller pumps that have a motor and electrical components that remain outside the aquarium (e.g., EcEcoTech Marine). With these, the heat produced by the pump motor stays outside of the tank. When it comes to the returning water from the sump back to the aquarium, you should use an external (in-line) pump and when considering one of these pumps select one that relies on being air cooled (e.g., Little Giant) rather than water cooled (e.g., Mag Drive). (The former has a fan system that helps dissipate some of the heat produced by the motor rather than relying more on tank water circulation to cool the pump.) Another thing that you can do to encourage a slight reduction in water temperatures is to remove heat generating equipment from the inside of the aquarium stand (e.g., move them alongside the stand) or move cool air into this compartment using a fan system (as described for the canopy below). In this way, the aquarium will not be impacted by warm air rising up underneath.

Fans are a useful tool when attempting to cool a tank. If you have a canopy over the tank, you should always have a good ventilation system and a small fan to pull in cool air and push out the hot air. You should place a vent at one end of the canopy and a fan at one end of the tank and the canopy should have an open back. This will also allow for cool air to be drawn into the canopy space. If you are using lights that produce lots of heat (e.g., metal halides) you can reduce the amount of time the lights are on (possibly reduce the time the lights are on by an hour or two and see how it impacts the animals) and have it come on later rather than during the hottest part of the day.

In an emergency situation, you can reduce temperature quickly by using small fans to induce evaporative cooling. Open the canopy and remove the glass tops (you may want to use egg crate material to keep jumping fish species in the tank). Position the fans so that they are blowing directly over the surface of the water. By doing this, you will increase the evaporation rate considerably and, in turn, reduce the water temperature. If done properly, it may reduce water temperature by 5-degrees Fahrenheit or more. While this may not be a big deal in a fish room, fans firmly perched or clipped on the edge of the tank are not aesthetically appealing and this method will greatly increase the humidity levels in the room. Be ready to check and regularly fill the sump with fresh RO water (possibly a gallon or more per day).

While it is more expensive, **the best way to keep your reef aquarium's temperature in check is with a chiller.** While they can noticeably increase what you pay for your electric bill (especially if you live in an area where electric rates are especially high), they will keep the reef tank at an optimal temperature and reduce the consternation that comes with the long, hot summer.