



CPR Marine Tower Protein Skimmer and Filter (CPR item code: CMT)

Most aquarists have found that the addition of a protein skimmer is essential for maintaining a healthy system. Many systems, however, are difficult to put together and then modify as the system changes. The CMT protein skimmer and filter makes it easy to supplement your new or existing system with a highly efficient skimmer and filter that can be placed in the sump to create any sump style filter set up. These skimmers utilize a needlewheel powerhead, which mixes air and water, providing a highly efficient protein skimmer. With the addition of a filter sock and your choice of additional media including bag, filter pad or biological media, your Marine Tower will help you maintain a gorgeous looking marine tank!

To place your CPR Marine Tower into operation:

- 1. Open the packaging carefully and remove all packing material from the CMT body. The unit should come almost fully assembled. Inspect the unit for damaged or missing parts. You should have:*

- (1) CMT body*
- (1) Collection cup assembly with lid and drain line*
- (1) Powerhead for protein skimmer*
- (1) Powerhead connection assembly (2 clamps, vinyl tubing, elbow: pre-installed)*
- (1) 4" filter sock*
- (1) Filter sock holder*
- (1) Airline clamp*
- (3) Egg crate for media chamber*
- (1) Filter pad for media chamber*

If any items are damaged or missing, please contact your dealer immediately.

- 2. Gently insert the barbed portion of the airline clip into the airline clip hole. Install the airline clip so that the clip portion is over the section that the pump is installed in. Push the clip in so that the base is flush with the acrylic. Take the end of the airline tubing with the air valve on it and clip it into the airline clip so that the valve stays out of water at all times.*
- 3. Pull the pump plug out of the unit and place the filter sock holder on top of the tabs over the section where the pump is located. Arrange the pump cord and airline tubing along one of the corners of the unit so that they come out of the unit through one of the notched corners of the filter sock holder.*
- 4. Insert the filter sock into the hole in the filter sock holder.*
- 5. Remove the drain hose from inside the collection cup. Place the collection cup assembly into the 4" column at the top of the skimmer chamber. If you choose to use the drain hose, turn the black drain elbow so that it opens downward and attach the drain hose. The drain line does not need to be used*

if you prefer to not have a separate waste collector. In this instance, just arrange the drain elbow so that it opens upwards and install a piece of vinyl tubing approximately 3 inches long (sticking straight up). You can use the vinyl tubing included for the drain hose. This will prevent your waste from coming out of the drain elbow while the collection cup fills up.

6. Depending on your desired set up, insert the media of your choice into the media chamber. If you are using filter pads or bagged media and would like to use the included egg crate for support, simply place the egg crate into the unit along the acrylic braces in the media chamber. You can use any bagged media like carbon, phosphate remover, filter pad media like nitrate or phosphate sponges, or biological media like Bio-Bale. You may experience better results with the bagged media when you use it in the lower levels of the media chamber when the media remains submerged in the water.
7. You are now ready to place the unit into your sump. If your sump is empty, simply place the unit into your sump with the CMT's rectangular outlet unimpeded and facing towards the return pump area of the sump. **If your sump already has water inside, you will need to fill the CMT up with some water so that the buoyancy of the unit does not prevent it from sitting securely on the floor of the sump.** Make sure to keep the protein skimmer pump plug out of the sump.
8. Place the overflow drain line into the filter sock. If possible, have the overflow plumbing go deep into the sock to minimize noise and splashing
9. **The recommended flow rate through the unit is up to 700GPH. Higher flow rates may need to be plumbed with a ball valve and tee fitting to divert the excess water to the sump in which the CMT is located.**
10. After inserting the overflow line into the filter sock, plug in the return powerhead as well as the protein skimmer powerhead. As the water enters the CMT, the water level in the sump will go down. Take a look inside the skimmer chamber as it may need to be topped off to reduce buoyancy. The water level in the sump/refugium should not be higher than 8". If the water level is higher, the CMT will need to be raised off the sump floor to achieve optimal performance from the skimmer pump.
11. Adjust the water level in the skimmer by moving the adjustment gate up and down. Use the thumb screw to secure the gate level. Adjusting the gate level will affect the quality and quantity of foam collected in the collection cup. The recommended starting water level in the skimmer column is at the base of the widest part of the collection cup funnel. After the skimmer has run for 24-48 hours you may need to adjust the water height in the skimmer. **If foam is coming out too fast or too wet, lower the gate level. If the skimmer is not pulling any material from the tank you may need to raise the gate level up.** The protein skimmer should start producing greenish-brown foam within approximately ten hours depending on your tank's water quality and biological load. If the tank is new you may find that the skimmer pulls out very little or that you are only collecting clear liquid. This should not be a concern until you begin to add substrate and organisms to the tank.
12. The collection cup should be checked and cleaned regularly, paying special attention to the throat of the funnel. Excessive buildup of waste in the throat can decrease the efficiency of the skimmer to collect skimmate.

Your protein skimmer is now in operation

Removal and Cleaning of Your Powerhead

- 1) Turn off the systems return pump and unplug the protein skimmer pump.
- 2) Remove the filter sock and its holder from the CMT body.
- 3) Disconnect the powerhead assembly (tubing and elbow) from the skimmer.
- 4) Remove the entire assembly along with the powerhead.
- 5) Remove the base plate by squeezing at the side tabs and pulling.
- 6) Unscrew the airline adapter and the impeller cover.
- 7) Wash all parts under running tap water. Never use detergent on parts that will come into contact with aquarium water. Make sure both air lines and elbows are clear of any foreign matter.
- 8) Re-assemble the powerhead and connect it to the protein skimmer.
- 9) The powerhead should be regularly cleaned, at least once a month, and should be replaced every twelve to eighteen months for optimal efficiency of the protein skimmer.

Air Valve

The air volume in the CMT protein skimmer can be adjusted using the air valve on the end of the air line. The skimmer will operate at its maximum efficiency with the skimmer chamber flooded with microbubbles. Begin with the air valve fully open and observe the skimmer chamber. If the chamber is not fully clouded with micro bubbles, slowly close down the air valve until the chamber is full. Further adjustment can be made with the adjustable gate.

