Compact Fluorescent Lighting Systems

Drs. Foster & Smith Educational Staff

Compact Fluorescent systems are similar in principle to standard fluorescent systems, but incorporate two smaller tubes shaped like a "U," thus producing a brighter, more intense light in a small space. You can install a retrofit kit to into many existing (non-plastic) standard fluorescent hoods or canopies to take advantage of the brighter light of compact fluorescent bulbs. Like standard fluorescents, they are available in a wide variety of spectrums and sizes.

Compact fluorescent systems range in size from 6" to 34" in length, with intensities of 9 to 96 watts. There are two lamp base styles: square pin and straight pin socket bases. The lamp base styles are not interchangeable. Therefore, be sure you know which lamp base type your fixture requires before you purchase your bulbs.

There are several advantages of compact fluorescent lighting over standard fluorescent lighting, which include:

1. **Brighter aquarium-** Compact fluorescent bulbs produce considerably more light output, resulting in a brighter aquarium.
2. **Smaller size-** Compact fluorescent bulbs are smaller in size than the fluorescent tubes. So you can install more bulbs in a hood or canopy.
3. **Longer bulb life-** Compact fluorescent bulbs require electronic ballasts, and are much longer lasting than standard fluorescent tubes. Longer bulb life saves money and time.
4. **Efficient-** Compact Fluorescent bulbs consume less electricity than conventional fluorescent lighting, which makes them efficient and even more economical.
5. **Small, efficient ballasts-** Most power compact ballasts are timer-ready, and easily enclosed in a hood area, or underneath the aquarium.
6. **Versatility-** For more complex lighting scenarios, many aquarists use a combination of compact fluorescents and metal halide bulbs. This is a particularly effective setup for marine reef aquariums.

Like standard fluorescents, compact fluorescent bulbs produce heat that is proportional with the number of watts of the system. When using multiple bulbs, make sure to incorporate adequate ventilation and/or a cooling fan in your hood or fixture. Close monitor your aquarium's water temperature. You may need to consider adding a water chiller, especially when illuminating an aquarium with approximately 4 watts per gallon or more depending on room temperature.

NOTE: Regular use, along with the passage of time, degrades the gas and coating within the bulb, changing both the intensity and spectrum of the light produced by the bulb. Because of this, it is important that compact fluorescent bulbs are changed on a regular basis.

Compact fluorescents are an excellent choice for any type of aquarium. They are available in a wide range of spectrums, ranging from the low Kelvin rated bulbs for freshwater planted aquariums up to the blue spectrum needed for saltwater reef aquariums. Because of the low operating cost and the longevity of the bulbs, these systems are a good choice for most aquariums.

To help you decide which compact fluorescent lighting system is right for you and your aquarium, refer to the comparison chart to view the features of each lighting system or bulb and identify which lighting system best fits your needs.

For More Information:

Aquarium Lighting: Spectrum and Intensity

Aquarium Lighting: Systems and Bulbs

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