

# Filtration Systems for Reptiles: Why You Need Them & How They Work

*Drs. Foster & Smith Educational Staff*



Setting up and maintaining a healthy habitat is the first step towards a healthy reptile. For those reptiles that require a partially or fully aquatic setup, this must involve a filtration system of some sort. There are many different filters to choose from, and it can get somewhat confusing trying to create a proper filtration system for your herp's habitat.

Why do I need to use a filter?

A [filtration system](#) is absolutely necessary for reptile setups that include water areas or that are fully aquatic, and they have a myriad of benefits.

- They keep the water clean.

Toxic compounds accumulate quickly in a closed environment like your reptile's tank, and filters will help to eliminate these compounds.

- Filters aerate the water.

Many species, such as Paddle-tail Newts, require highly aerated water to live. Chronically low oxygen levels can cause stress, illness and, for some species, even death.

- Filters more accurately simulate your herp's natural environment.

Reptiles in the wild don't live in still, stagnant bodies of water. Some live in rivers with fast moving currents, but even those that live in ponds or lakes still have some movement in their water.

- They reduce the possibility of parasite infection and other illnesses.

Aquatic terrariums that are not set-up with filter systems will need very frequent water changes - much more frequent than most owners are prepared to deal with - to prevent the spread of parasites and other diseases. Using a filter keeps the water cleaner and decreases the frequency with which you will need to change the water.

- They reduce odors.

While keeping the tank clean, filters also reduce odors by eliminating harmful bacteria that build up and cause the unpleasant smells that people associate with some enclosures.

- They promote good health.

Most importantly, using filters allows you to create a healthy aquatic terrarium environment that is capable of supporting life and promotes healthy eating, activity levels, and other natural behaviors.

### How do I know which filter to use?

The filtration system you need will depend on a few different factors, namely:

- Species of reptile the habitat is for
- Filtration needs of the reptile
- Size of the aquatic terrarium
- Water depth
- How often you are willing to clean the enclosure and do water changes

For example, a reptile that lives in a large, fully aquatic enclosure with a deep water level will require a more powerful filter than a reptile that lives in a semi-aquatic tank with only a few inches of water.

### What are the different stages of filtration?

There are three different filtration stages, and each one has its own specific media. Each stage serves a different purpose, so the most effective filtration occurs when you use a 3-stage filter system. The three stages are mechanical, biological, and chemical.

**Type:** Mechanical

**Media:** [Fluval MSF Foam Block](#)

**Function:** Mechanical filtration strains solid materials such as debris, solid waste, and uneaten food from the water. Mechanical media is available in a variety of different sizes to remove all sorts of different particles. For example, coarse media like Super Porous Ceramic Media is used to remove large pieces while fine media such as diatomaceous earth is used to trap and remove very small particles.



Type: Biological

Media: [Fluval BIOMAX Filter Media](#)

Function: Biological filtration uses an established colony of beneficial bacteria to break down toxic compounds (ammonia) into less harmful compounds (nitrates). This is known as the "Nitrogen Cycle." Biological media is any inert material that houses the beneficial bacteria used for this process. These types of systems are widely used because they are fairly maintenance free, and once the colony has been established, it is difficult to destroy. The effectiveness of a biological filtration system is closely tied to good water movement



Type: Chemical

Media: [Activated Carbon](#), Ion Exchange Resins

Function: Chemical filtration removes unwanted materials such as copper, chlorine, dissolved proteins, medications, and tap water impurities from the water with chemical reactions. Chemical filtration uses a process called adsorption to bind the unwanted material to the surface of the media. There have been advances in recent years with chemical filtration that allow you to focus on eliminating a single impurity. Chemical filtration systems work best when used in conjunction with the other two types of filter stages.



### What are the different types of filters?

There are four different types of filters that you would use in a reptile habitat.

- **Air-driven Internal Filter**

Air-driven internal filters are small, inexpensive, and good only for small tanks with shallow water. They maintain good water conditions, but they require more frequent water changes. They utilize all three stages of filtration. An example of a habitat that would use this kind of filtration would be a small tank that houses only one or two Oriental Fire-bellied Toads.

- **Power Filters**

Power filters hang off the back of the enclosure, so they don't take up space within it. They use pre-made cartridges that provide all three filter stages. They cannot be used for all reptiles because they require almost a full tank. They also leave holes that a toad or newt could escape through. An example of a habitat that would benefit from this type of filtration is a large tank with fully aquatic turtles that require deep water.

- **Internal Power Filters**

Internal power filters would be placed inside the tank near the bottom, so they provide excellent water movement. They are good for smaller tanks under 10 gallons, but you must use at least two for a larger aquatic terrarium. They provide all three filter stages. Internal power filters could be used in a small enclosure that houses a couple frogs, newts, or turtles.

- **Canister Filters**

Canister filters are, by far, the best choice for large aquariums, as they move a lot of water, are very effective in maintaining cleanliness, and don't take up tank space. They're also a good choice for reptiles that produce a lot of waste. They tend to be more expensive than other options, but they result in a healthier, cleaner environment that requires less maintenance, so they are well worth it in the long run. An added benefit is that not only do they utilize all three filter stages, but you can control how much of each media you use, so you can fully customize your filtration system to your reptile's needs. An example of a habitat that requires this kind of powerful filtration would be a fully aquatic turtle habitat.

### Do I still need to clean and monitor the water quality if I use a filter?

Absolutely! Regardless of what kind of filtration system you choose, you will still need to clean the enclosure regularly. No filter, no matter how powerful, is a substitute for regular water changes. How often you will have to do partial and full water changes will depend on the filter you choose and how well it controls water quality.

Using a filter also doesn't preclude monitoring water quality. Use a product such as [Tetra EasyStrips™](#) for weekly water testing. Testing water quality is especially important if you use tap water in your tank. Though tap water can look and smell clean, it can still contain substances that are toxic to your herp at certain levels. You will need to test it regularly for chlorine, chloramines, phosphates, and heavy metals.