

HELPFUL HINTS FOR A CLEAR POND

We hope these Helpful Hints will help you take care of your pond.

The following are answers to questions most often asked by pond hobbyist

WHEN DO I INSTALL THE FILTER?

The best time is in the spring before the water temperature reaches 55 degrees. If the filter media bag is in need of replacement, do so now. This is the best time to install a new filter bag. As the pond begins to warm up, the filter and the pond, will mature biologically at the same time.

Do not clean your pond, before installing a new PFI filter for the first time. This will actually will set the pond back. **The filter will clear the pond water faster with biologically charged water,** not with fresh water.

I HAVE A WATERFALL . . . WHERE SHOULD I INSTALL THE FILTER?

If your waterfall is less than 3', the filter should be placed on level ground, beside the waterfall. If the waterfall is greater than 5', the filter should be placed in the back, level with the top of the falls. The shorter the tubing from the filter to the falls, the better the flow. **The filter should not be installed in direct sunlight.** The black canisters will absorb the sun's heat, the heat will raise the ponds water temperature.

WHERE SHOULD I PLACE MY PUMP?

The pump needs to be located, so that it constantly re-circulates the water from all areas of the pond. To do this, **the pump should be located at the furthest distance from the filter's return line or the waterfall.** If you have electrical limitations, (the cord length on your pump is not long enough), you can use our PRE 110 pre-pump filter that can be placed anywhere in the pond. Install the PRE 110 in a location that would allow the most circulation. Then install tubing from the PRE 110 to the inlet of a pump with a rating of between 300 – 750 GPH. This set up will allow the pump to be located near a receptacle and the PRE 110 to draw from any other location in the pond.

THE FILTER IS LEAKING . . . WHAT SHOULD I DO?

Leakage is usually caused by backpressure in the filter. The back pressure may be caused by a lack of weekly cleaning. **Back pressure will also occur if the pump size (GPH) is higher than the recommended flow for the filter and/or the discharge fitting on the filter is smaller than the inlet fitting.**

Check the fittings, and make sure they are the same size (inlet and outlet) and sealed correctly with Teflon tape. Next, check to see if the tubing is the correct size. Fittings and tubing should be the same size. The area around the hose clamps, holding the tubing to the fittings, should not leak.

If everything checks out, then there could be a restriction. The restriction could be caused by collapsed tubing or plumbing additions, such as valves etc.

The groove for the “O-Ring” should be free of any debris and should allow the “O-Ring” to lay nicely within the groove. If by chance, the “O-Ring” does not fit nicely, call us [800-882-5327] for a replacement at N/C. The “O-Ring” will shrink, if allowed to sit out in the sun for an extended period of time. The white opaque element collar was designed, to hold the filter bag away from the “O-Ring” groove, allowing for easy closure when putting the filter back together.

The filter canister halves should line up and have equal spacing all around. **Install the clamp and tighten the handle until it squeaks. Next, using the wood handle of a hammer, tap all around the outside of the clamp.** This will allow for one to two more turns on the clamp handle. It is not possible to strip the bolt threads when tightening the clamp.

WHAT SHOULD I EXPECT AFTER MY FILTER IS INSTALLED?

Once the water temperature maintains or averages 65 degrees, you will experience the following phases.

	<u>Duration</u>	<u>Method of filtration</u>	<u>Color of Pond</u>
Phase I	weeks 1-2	Mechanical	(Dark Green)

During this first stage, you will notice that the filter media bag (element) requires frequent cleaning, using a bucket of pond water (two to three times a week). The filter media bag will be full of algae, but the filter will be discharging clear water. This can last for two weeks or more.

Phase II	weeks 3-4	Biological	(Milky Green)
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The second stage, the filter media bag cleaning frequency will be decreases and the filter will be discharging light green water. The pond will look milky green.

Phase III	weeks 4-5	Nitrate Removal	(Brown)
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During the third stage, you will notice that the filter media bag requires even less cleaning and the pond water will be brown in color. The media bag has more brown accumulation on it than green. The filter will discharge clear water again.

Phase IV	weeks 5-6	Balanced	(Crystal clear)
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During the fourth stage, the pond will clear. Now, cleaning the filter media bag should be done only when the flow is reduced to 50% or a back-pressure of 4-5lbs. is indicated. At this point you may use a garden hose to clean the filter bag, but continue to rinse carefully and without strong water pressure.

WHAT IS “NORMAL” CLEANING?

A routine can not be established, during the first 6 weeks of installation, until the filter is biologically mature. It is “normal” during this time to clean the element twice a week. After the first 6 weeks, with the pond water at 65 degrees or warmer, **the filter bag should be cleaned once a week**, unless there is dirt on the bottom of the pond from plants tipping over, or the fish have kicked out the gravel while trying to spawn.

HOW DO I CLEAN THE FILTER MEDIA BAG?

When cleaning the filter bag, **always hold it by the gathered fabric at the top.** For the first six weeks, the bag should be rinsed in a bucket of pond water. After the 6 week period, you may use a garden hose, however, continue to rinse carefully and **not under strong water pressure.** The large particulate that collects on the top of the bag should be rinsed off. This should not take more than 3 minutes. **It is not necessary, nor is it possible, for the filter bag to rinse absolutely clear.**

WHEN DO I CLEAN THE FILTER MEDIA BAG?

It is time to clean the bag when; the **water flow from the filter's discharge is reduced by 50%.** If you have a gauge on your filter, **clean the filter bag when the gauge indicates backpressure of 4-5 lbs.**

WHAT IF I HAVE CLEAR OR BROWN WATER AND I'M STILL CLEANING THE FILTER MEDIA BAG EVERY 2-3 DAYS?

When the pond clears and you are still cleaning the filter bag every 2 or 3 days, **the cause is related to dirt on the bottom of the pond.** If this is occurring, the filter bag will feel solid, like a brick. The **option is to clean the filter bag often,** this cleaning frequency will eventually help **to remove the dirt from the bottom of the pond. . . or . . . drain the pond.** It is necessary to check submersed plantings for any pots that may have turned over. The Koi, in particular, will kick out "pea" gravel and stir-up the soil. If pea gravel was used to cover the soil in the lily planters, it is **very important** that you **exchange the pea gravel with larger 1 1/2"- 2" rocks, two layers thick.** The other option is to purchase our (soil-less) **PH80 Planters** to eliminate the dirt issue, and heavy lifting. These are ideal for lilies in a warmer climate.

WHY IS FLOW (PUMP SIZE) OR CLEANING THE FILTER MEDIA BAG SO IMPORTANT?

Flow (circulation) is important to achieve the maximum biological capacity of the filter. The recommended GPH pump is essential to achieve the flow rate that we require going through the filter media. Most magnetic pumps do not have the torque (push) to accomplish PFI filter's circulation requirements. **Magnetic pumps should not be installed with our filters.** (If you already own a magnetic drive pump, make sure that its GPH rating is twice what the recommended flow is for the PFI filter.) If the filter bag is not cleaned on a regular basis, or if the plumbing hinders or slows down the flow (with valves, elbows, etc.) the circulation will be reduced, and the filter's maximum effectiveness can not be achieved.

WHY DOES THE POND HAVE FOAM BY THE WATERFALL IN THE SPRING?

The foam at the base of a waterfall is a result of an abundance of ammonia or protein in the pond. **This is the physical way nature works to rid the pond of ammonia or protein.** The pond and filter are biologically dormant at 55-degree water temperature. At this time, the fish are becoming more active and are producing more ammonia than the pond can handle, biologically. Do not feed the fish. When the temperature increases to 60 degrees, start feeding the fish slowly. Introducing the food slowly will also

cause less stress to the fish. This can occur again in the fall, if you continue to feed the fish at water temperatures below 60*.

MY POND HAS TURNED GREEN. THE FISH ARE ACTING DIFFERENTLY AND ARE SWIMMING SIDE BY SIDE AT THE SURFACE. WHAT'S GOING ON?

Your **fish are spawning!** This usually occurs when the water temperature reaches about 62-67 degrees. At this temperature the filter and pond may not be mature biologically. The pond turns green because there is an excess of ammonia and nitrites. This condition should be considered normal. Do not feed the fish during this time. Fish can spawn 2-3 times during this period. **The pond should be back to normal within two weeks following the spawning activity.**

MY PRE-PUMP FILTER NEEDS TO BE CLEANED DAILY ... WHY?

It is important to remove any filter material from the pump, during the first 6 weeks of installing the filter. Our filters need maximum circulation. **The circulation will be greatly reduced if the pre-pump filter material [foam etc.] is clogged.** The pump should have a screen that will protect the fish from being sucked into the pump. (The healthy fish never get caught, as they are stronger and can swim away from the suction.) The pump should be raised 6" off the bottom of the pond. Net up any leaf debris that is on the bottom of your pond after the water clears. Now you can place your pump on the bottom of your pond. After the pond is free of all debris on the bottom, you may reinstall the pre-filter for the pump. **If the pond reverts back to green, it is due to poor circulation, remove the pump pre-filter indefinitely.**

DOES MY POND NEED ANY CHEMICALS? I SEE ALL THESE PRODUCTS AND WONDER IF THEY WOULD HELP.

No chemicals should be needed or used in your pond. However, bacteria may be added to a pond when the temperature indicates. **Blue dye should not be used,** as the activated carbon will absorb it. **Any products used for clumping algae or dirt together [Flocculent products] will destroy the filter media. These flocculents fill up the media's internal spaces, which are critical for "Ammonium Oxygenation".**

The **pond is a natural environment and should be treated in the same manner.** The best defense for disease is excellent water quality. Antibiotics can diminish biological activity, causing more problems by changing the water chemistry and quality, will stress the fish even more.

WHAT DO I NEED TO DO, IF I GO ON VACATION FOR A WEEK OR MORE?

You need to **remove all mechanical means of filtration (any pre-pump filter) on your pump.** It may be necessary, based on how often you clean the pump, to raise the pump slightly off the bottom. **Remove the filter media bag from the filter, rinse it and put it away for now.** Close the filter and restart the pump. It is a good idea to have a neighbor check the pond, daily if possible, to make sure the water is circulating properly. **Do not have them feed the fish.** The pond may revert back to green, but will respond (and clear) when the filter bag is reinstalled.

DO I NEED TO DO WATER EXCHANGES?

It is probably a good idea. When using competitive filters, sometimes they suggest exchanging water to dilute the nitrates in the pond in order to achieve some clarity. **PFI's filter media removes the nitrates naturally; therefore, it is not necessary to do water exchanges for this reason. A water exchange of 20% once a month is good for your ponds water chemistry.**

WHEN DO I DISCONNECT THE FILTER?

Disconnect the filter when your pond is at 55 degrees or less. The bacteria have gone dormant for the winter season. The fish are also hibernating, and no longer need [ammonia producing] food. Simple aeration will remove the ammonia being produced by the fish during their hibernation period. The filter could be used for mechanical filtration, but the cold temperatures will make it difficult and uncomfortable to clean the filter media bag. At this temperature, disconnect the filter, clean the canisters, etc. and store them in a dry location. Remove and rinse the filter bag thoroughly and allow it to air dry. (Do not place in a plastic bag). If water is allowed to remain in the canisters and the water freezes, damage will occur. Put your "O" ring in a plastic bag that you can seal. PFI includes a new "O- Ring" with every replacement filter bag.

WHEN IS THE BEST TIME TO TOTALLY CLEAN OUT A POND?

Late fall! Clean the pond when the water temperature is 55 degrees or less. Draining and cleaning the pond at this time will prevent ammonia spikes and will allow the replaced water to age, prior to spring. The fish can be moved with less stress, when they are somewhat dormant and are not being fed. **Do not scrub down the rocks, pond sides and bottom.** Only remove the dirt from the bottom by mopping up or vacuuming with a shop-vac. **PFI manufactures a re-circulating vacuum that will clean the bottom of the pond, clean water is returned back to the pond.**

HOW DO I CORRECTLY CLEAN A POND?

Save as much of the existing water as you possibly can, even if it is green. Transfer this saved water, along with your fish to a holding tank, a plastic pool works well. Do not scrub down the pond; just remove the dirt or sediment in the bottom. Check the lily pots to make sure they are rocked properly with two layers of 1 _ - 2" rock. This rock will prevent the fish from digging and disturbing the soil again. Refill the pond with the "saved" water, and transfer the fish. Add enough de-chlorinated water to fill your pond.

DO I LEAVE THE FISH OUTSIDE OR BRING THEM INSIDE FOR THE WINTER?

Goldfish and Koi are COLD water fish. That means they can tolerate the cold temperatures, however, the pond must be equipped to allow for air and gas exchanges. **Raise your pump up from the bottom of the pond** to a level just below the water's anticipated ice depth. This pump placement for the winter will circulate only the cold water close to the surface, not the warmer water below.

- It is perfectly fine if the pond freezes over, as long as the aerator is injecting **air below the ice**. Gas exchange will occur because the air will escape around and along the pond's edge. The ice will protect the fish and at the same time insulate the water from the extreme fluctuations of air temperature.
- You may want to **purchase a cattle trough heater to be placed in the deepest part of the pond**. We don't recommend the floating type heater.

The heater needs to be plugged in only during extreme cold temperatures . . . temperatures that are well below zero, anticipated to last a week or longer. When temperatures are above zero, unplug the heater. **This on and off procedure only controls the thickness of the ice formation.**

- **If you need to replace a pump or check the ice depth . . . use hot water to melt a hole in the ice . . . never break the ice....** The percussion will stress the fish and cause inner ear damage.

We recommend the PA50, PA75, or a PA125 aerator to be used. Important: The water flow should be directed away from the fish, so they do not have to use any energy, while in hibernation. The fish can drown or go into stress with too much turbulence or circulation.