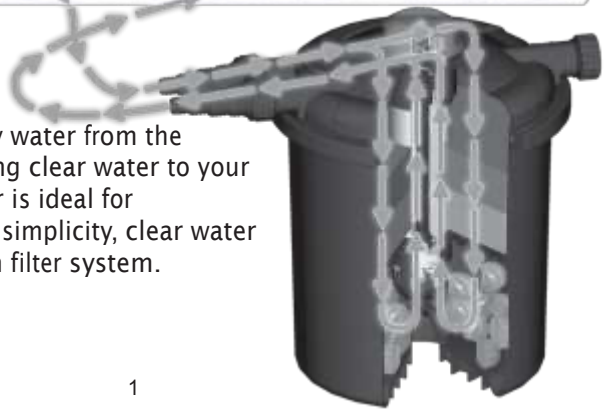
Biological Filter 2500

with Cleaning Indicator and Backwash Feature

Instructions for Operation • Safety • Warranty



How does it work?

These filters receive dirty water from the pump and return sparkling clear water to your pond. This pressure filter is ideal for pond keepers who want simplicity, clear water and an attractive, hidden filter system.

Pressure Filter Installation

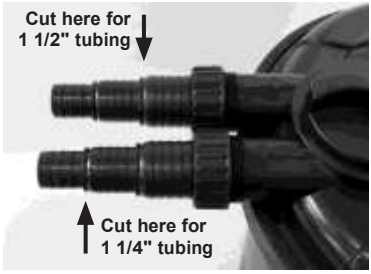
Please read all instructions carefully and keep for future reference

Safety and Electrical Connections

- ***Always disconnect the electrical supply before starting to handle, maintain, repair or install any pond equipment.***
- This product is not submersible, and it must be situated where it cannot fall into the water. However, the design is weather resistant, and can safely be installed outdoors.
- **Direct exposure to ultraviolet light can damage eyes and skin. Do not attempt to view the lamp when lit.**
- Connect UV units only to a receptacle protected by a Ground Fault Circuit Interrupter. (GFCI)
- Protect from the frost. In freezing climates, drain the filter and remove from the ground and store in a warm dry place to avoid damage caused by ice.
- All electrical work must be performed by a qualified technician. Always follow the National Electrical Code (NEC) or the Canadian Electrical Code as well as all local, state and provincial codes. Code questions should be directed to your local electrical inspector. Failure to follow electrical codes and OSHA safety standards may result in personal injury or equipment damage. Failure to follow manufacturer's installation instructions may result in electrical shock, fire hazard, personal injury or death, damaged equipment, provide unsatisfactory performance and may void manufacturer's warranty.

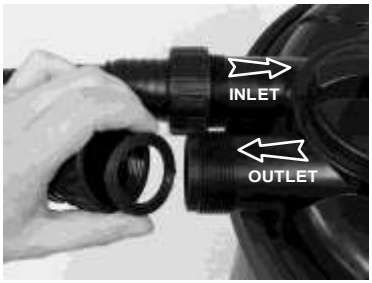
Installation

1. The UV light is already installed.
2. Position pump at the furthest point from the waterfall for best circulation. Run the tubing out of the pond to the filter. Bury or conceal the tubing as desired.
3. Solids handling pumps work well with this Filter.
4. Position the pressure filter anywhere around the pond. Avoid placing the filter where it could get flooded or fall into the pond. Since the discharge is under pressure, the filter can be located downhill from the waterfall. For units with UV lights, be sure the power cord can reach your outlet.
5. Dig a hole big enough for the filter to sit in and at a depth where the retaining ring is left exposed out of the ground to allow for easy maintenance.
6. Recess the filter into the previously dug hole and carefully backfill around the filter.
7. To maximize flow performance, use a hacksaw to remove any smaller steps on the barb fitting than the tubing being used. If connecting to Sch. 40 PVC flexible pipe, use the included 1 1/2" adaptor fitting with a rubber coupler (sold separately) to connect the filter and the pipe.



Step 7

8. Secure the prepared barb fittings to the filter inlet (arrow pointing in) and outlet (arrow pointing out). Be sure to use the gasket as shown and hand tighten nut onto filter. Do not overtighten.
9. Connect the tubing from the pump to the barbed fitting or 1 1/2" PVC adaptor on the inlet of the filter and secure with a clamp.
10. Connect the tubing for the waterfall to barbed fitting or 1 1/2" PVC adaptor fitting on the outlet of the filter and secure with a clamp.
11. Run the tubing to the waterfall and attach to a waterfall device if applicable. Burying the tubing will produce the most natural look for your pond.
12. If the pressure filter unit is equipped with a UV light make sure it is properly plugged into a GFCI protected outlet. DO NOT operate the UV light until the pump is running.
13. For units with UV, there is a connection at the ballast to be made. Connect the 2-pin fittings by aligning the ends properly and firmly pushing them together. Secure by hand tightening the nut to create a weatherproof seal. This connection is not meant to be submersed but is good for outdoor use.
14. Confirm the backwash valve is in the “RUN” position and plug in the pump and UV. To switch on the UV remove the clear top and once activated secure clear top back on filter with thumbscrew. Observe the filter and connections for any leaks.
15. Conceal your pressure filter and tubing with your choice of landscaping. Fake rocks are a good option to hide the filter.



Steps 8, 9, 10


Step 13


Step 14

Operation Tips

Running the filtration system continuously is the best way to keep your pond looking its best. Once installed the filter will take a few weeks to build up sufficient nitrifying bacteria in the system.

To maximize the filter’s performance and avoid ineffectiveness or damage to the filter, be sure to match the flow rate with the filter’s specifications.

These filters are not to be used in the winter during freezing conditions. Be sure to disconnect and drain the filter to store in a warmer location for the winter.

Backwashing, Cleaning and Replacing the Filter Pads.

When installed on a dirty pond, the foam pads will need to be cleaned more frequently until the pond clears. As pond conditions stabilize, the time between cleanings will increase. Pads are meant to be slightly dirty, there is no need to overclean them. This model includes a cleaning indicator that pops up when pads require backwashing or cleaning. If you notice a decrease in water flow, the filter may need to be cleaned. Using the Backwash feature will rinse the pads and extend time between full cleanings. Also, be sure to check that the pump is not clogged. Replace the pads when they show signs of wear to maximize filtration capabilities.

Backwashing the Filter

1. For units with UV, be sure to turn this off or unplug it before servicing. Unplug the pump.
2. Remove the cap from the backwash port labeled "CLEAN". Be sure to not lose the gasketed plug and nut.
3. Connect tubing to the backwash port with supplied barb hose connector or PVC adaptor fittings. The hose can run to a garden area as the backwash water from the pond is good for watering.
4. Rotate the backwash valve to "CLEAN".
5. Turn on the pump and water will begin to rinse the pads and exit the backwash port.
6. Run the pump for a few minutes. The water from the backwash should begin to clear. Shut the pump off.

   Note - *If water does not clear, a full cleaning of the pads may be required. Full cleanings also take less pond water than extended backwashing. For example, a pump that produces 2000 gallons per hour (33 gallons per minute) would use 167 gallons of pond water in 5 minutes. This can be very effective when doing water changes, but you do not want to pump too much water out of your pond just to do a backwash cycle.*
7. Once backwash is complete, remove the connector and hose from backwash port and replace gasketed plug and secure with nut.
8. Rotate the backwash valve back to "RUN" and turn pump and UV (if applicable) back on.
9. Replace water in the pond lost to backwashing. If necessary, be sure to properly treat the water with dechlorinator to protect your fish.
10. Be sure to verify the system is functioning properly and check for leaks.

Step 2

Step 4 - CLEAN Position

Step 8 - RUN Position

Full Pad Cleaning or Replacement

1. For units with UV, be sure to turn this off or unplug it before servicing. Unplug the pump before opening.
2. Loosen the locking nuts that secure the tubing connectors to the filter and remove them from the lid. Be sure not to lose the gaskets that seal the connectors to the filter.
3. To access the pads and bio-balls for cleaning or replacement, the top of the filter can be removed by taking off the clamp. Start by sliding the locking wedge to release tension.
4. To remove the clamp completely depress the tab and open the clamp wide enough to remove from the filter.
5. Carefully lift the lid off the tub. Be sure to not lose the O-Ring that seals the lid and tub.
6. Filter pads can be removed and rinsed with clean water. Replace with new pads if they are showing signs of wear.
7. Bio-balls can be accessed by removing the plate at the bottom. Bio-balls can be rinsed with pond water to get larger debris from them, but do not overclean these. This is where the beneficial bacteria grow.
8. Replace items in reverse order and install the O-ring with lid assembly back on filter body.
9. Secure the clamp around the filter by closing the clamp firmly and sliding locking wedge into place for a tight seal.
10. Reattach hose connections with gaskets and locking nuts securely in place.
11. Plug in pump and UV. Observe the filter and check for leaks.

Step 3

Step 4

Step 6

UV Lamp and Quartz Sleeve Replacement

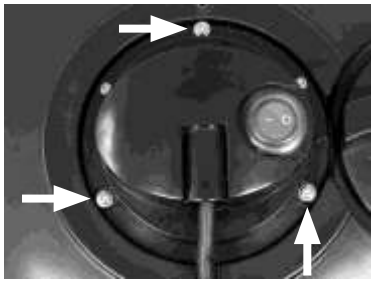
For units with UV lights it is recommended that a new lamp be installed after 12 months of use. While the light might still turn on, the effectiveness of the UV light diminishes over time. Quartz sleeves are typically long lasting and only require replacement if they break or develop a leak due to the age of the seals.

UV Lamp Replacement

1. Unplug the UV unit and the pump.
2. Remove thumbscrew from clear lid on top of unit. Remove the clear lid. ***TIP:*** *Use it to hold the various screws during the process.*
3. Remove the two screws and the plastic cord retainer clip.
4. Remove the three screws that hold the UV lamp assembly in the unit. Take care not to lose any of the screws during this process.
5. Remove the UV assembly from the unit.
6. Remove the old UV lamp.
7. Carefully remove the black stabilizing protector on the end of the old lamp.
8. **Do not touch the new lamp with your fingers. The oil from your skin can cause pre-mature failure of the lamp.**
9. Hold the new UV lamp with a glove or clean cloth and plug into the UV housing. Transfer the black stabilizing protector unit to the new lamp.
10. Carefully slide the assembly with the new lamp back into place and secure it with screws.
11. Reattach the cord retainer clip with the two screws.
12. Replace the clear top cover and secure with thumbscrew.
13. Return the unit back to service.

Step 2

Step 3

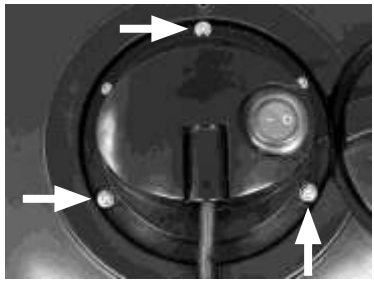


Step 4

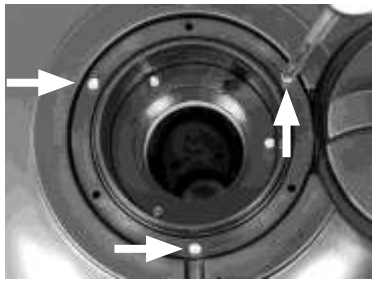
Step 9

UV Quartz Sleeve Replacement

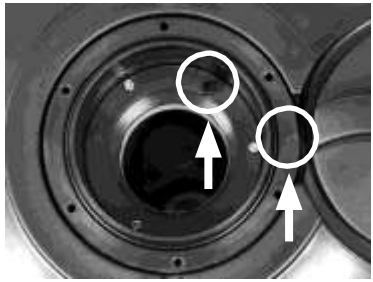
1. Unplug the UV unit and the pump.
2. Remove thumbscrew from clear lid on top of unit. Remove the clear lid. ***TIP:*** *Use it to hold the various screws during the process.*
3. Remove the two screws and the plastic cord retainer clip.
4. Remove the three screws that hold the UV lamp assembly in the unit. Take care not to lose any of the screws during this process.
5. Remove the UV assembly from the unit and carefully set it aside being careful not to touch the UV lamp. If you are replacing the UV lamp, follow the instructions above.
6. Remove remaining three screws and the UV Sleeve assembly from the unit
7. Be sure to use caution as the quartz sleeve is glass and can break. If the sleeve is broken use proper protection for your hands and eyes while cleaning glass from the filter.
8. If you are cleaning the sleeve do so at this point. Be sure to inspect the gasket is in good shape and skip to Step 10 to reinstall the sleeve once cleaned.
9. To replace the sleeve with a new one, you may need to remove the interior cap by removing three screws and transferring it to the new sleeve. The stem on this section activates the micro switch on the UV starter.
10. Once the presence of the interior cap is verified on the new sleeve assembly, install the new gasket and sleeve assembly into filter unit. Be sure to align the holes properly to receive the screws. Also, be sure the sleeve is positioned correctly with the small arrow pointing toward the front of the filter. Verify the stem on the interior cap is in the correct position.
11. Secure the sleeve with three screws as shown.
13. Carefully replace the UV assembly into the filter. Be sure it is seated properly and secure with three screws.
14. Reattach the cord retainer clip with the two screws.
15. Replace the clear top cover and secure with thumbscrew.
16. Return the unit back to service.



Step 4



Steps 6, 11



Step 9

Troubleshooting

If there is no water through the filter to the pond…

- Check if the pump is on and working.
- Check if the pump is clogged and clear debris if needed.
- Check if the plumbing lines to and from the filter are blocked or loose/leaking.
- Check that the backwash valve is in the “RUN” position.

If there is reduced flow through the filter...

- Check if pump is clogged and clear debris if needed.
- Check that the backwash valve is in the “RUN” position.
- Check if filter pads are clogged and clean/replace if needed.
- Check if the plumbing lines to and from the filter are blocked or loose/leaking.

If the water is not clear…

- The filter may be new and requires a few weeks to “mature” with nitrifying bacteria.
- The filter may be the wrong size for the pond.
- The pump may be the wrong size for the pond and filter. See specification chart or box for details.
- The UV lamp may be burned out or old. Replace if broken or after 12 months of use.
- The foam pads may need to be backwashed or fully cleaned.
- The fish load and/or feeding rates may be too high.

If the filter is leaking…

- Check that the gaskets and O-rings are seated properly and in good repair. Replace if needed.
- Check that the pump is properly sized for the filter.
- Check that the filter itself is not damaged or broken.