

# Cyclone 5000 Instruction Sheet



Thank you for purchasing a **Patio Ponds Cyclone 5000 System**. Your **Cyclone 5000** is a 3-stage mechanical\biological filter designed to filter koi ponds up to 5,000 gallons and goldfish and plant ponds up to 9,000 gallons. The **Cyclone 5000** is designed for flows from 2,000-3,000 gallons per hour.

## Parts List

Before you assemble your **Cyclone 5000** please take the time to familiarize yourself with the parts and components of the filter.

Your **Cyclone 5000** should contain the following:

- 5 - 3" Male Adapters
- 5 - 3" O-rings
- 1 - 3" Female Adapter
- 4 - 3" Cleanout Adapters (FPT x SPIG)
- 2 - 3" Fernco Couplings
- 1 - 3" Standpipe Assembly (1 'Tee' and 3" PVC pipe)
- 3 - 1½" Bulkheads
- 3 - 1½" Male Adapters
- 3 - 1½" Drain Valves
- 24 - Black Magic Brushes
- 5 - Support Rods
- 2 - Biological Filter Mats with Support Grate
- 1 - Warranty Registration Card

If you have chosen the extra 3" input option, you will receive an additional 3" Male Adapter, 3" O-ring and 3" Female Adapter.

## Additional Parts Needed

Assembly of the **Cyclone 5000** will require few tools if any. However, you will need the following items before you begin assembly:

- Line or hose Level
- Teflon Thread Tape
- PVC cement
- Pure, fish-safe Silicone Sealant (optional)
- 1½" SLIP Tee
- 3" PVC Pipe (length needed depends on application)
- 3" Knife Valve(s)
- PVC elbows and connections (type and number varies with application)
- External Centrifugal Pump (2,000-3,000 GPH rated flow)
- Concrete mix
- Steel Re-bar

## Assembly Instructions

**1.** Prepare an area to install your **Cyclone 5000**. When installed, the water level in the **Cyclone 5000** should be at the same grade as the pond water level. The recommended operating water level is 1" above the inter-tank fittings. This is referred to as gravity-fed operation. (Diagram A)

→ **TIP: Using a hose level is a great way to site the filters properly.**

Since the intake line is not under pressure, friction losses pose a significant problem. Use pipe of at least 3" diameter. If your **Cyclone 5000** is to be installed more than 15 feet away from your pond, consider using a second input to the filter or boosting the connecting pipe to 4 or 6". For very long runs (50 feet or more), use two inputs and connecting pipe of at least 6".

→ **TIP: 90° elbows can also place restriction on the intake line. Use two 45° elbows or a long-radius 90° elbow instead.**

**2.** At your chosen location, lay **Re-bar** and pour a level **Concrete Base** at least 3" thick to accommodate the base of the **Cyclone 5000**. This is necessary to prevent settling of the filter, which will weigh

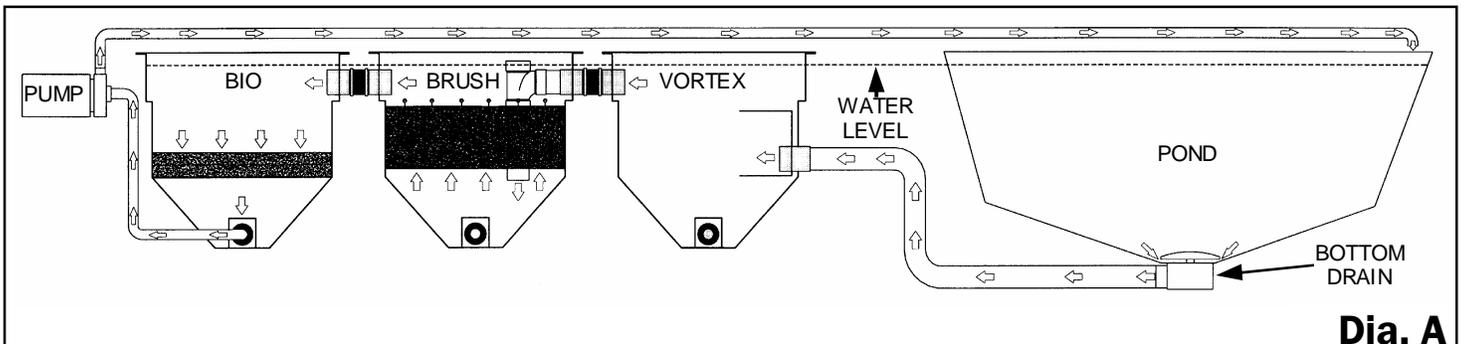
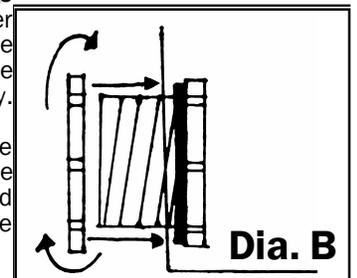
approximately 1,800 pounds when filled with water! Allow the concrete the appropriate amount of time to set and harden before proceeding to the next step.

→ **TIP: Be sure to add the thickness of the concrete base to your level calculations.**

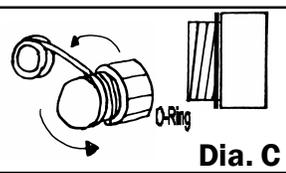
→ **TIP: If you are unsure about working with concrete, consider contracting out this part of the installation.**

**3.** Install the 1½" **Bulkhead Fittings** into the drain hole of each filter chamber. Be sure to install the **Gasket** on the inside of the chamber. Hand-tighten only. (Diagram B)

**3.** Place the filter chambers on the **Concrete Base** and align. The **Vortex Chamber** should be placed closest to the feed lines from the pond. (Diagram A)

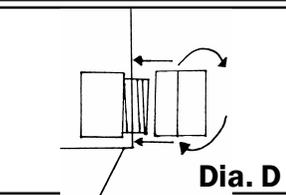


4. Using **Teflon Thread Tape**, wrap the threads of the **3" Male Adapters** three to four times. Push a **3" O-ring** onto the threads of each **3" Male Adapter** until it reaches the last thread. (Diagram C)



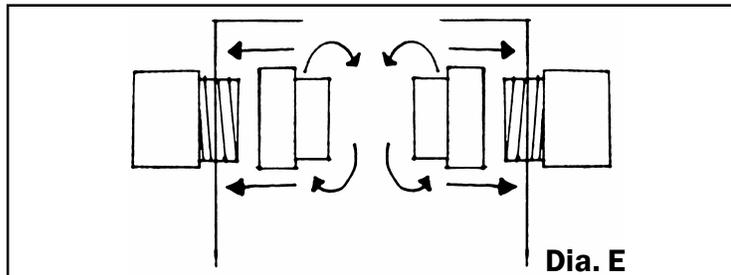
**Dia. C**

5. Place a **3" Male Adapter** on the inside of each input port on the **Vortex Chamber**. Attach a **3" Female Adapter** to the exposed threads of the **3" Male Adapter**. Hand-tighten only. If desired, add a bead of **100% Fish-Safe Silicon Sealant** around the **O-ring** prior to tightening. (Diagram D)



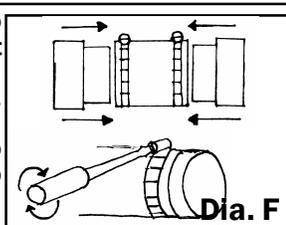
**Dia. D**

6. Place a **3" Male Adapter** on the inside of each chamber's top inlet/outlet port. Attach a **3" Cleanout Adapter (SPIG x FPT)** to the exposed threads of the **3" Male Adapter**. Hand-tighten only. If desired, add a bead of **100% Fish-Safe Silicon Sealant** around the **O-ring** prior to tightening. (Diagram E)



**Dia. E**

7. Loosen the clamps on the **3" Fernco Couplings**. Place onto the **3" Cleanout Adapters** and slide tanks together. Tighten the clamps with a screwdriver. (Diagram F)

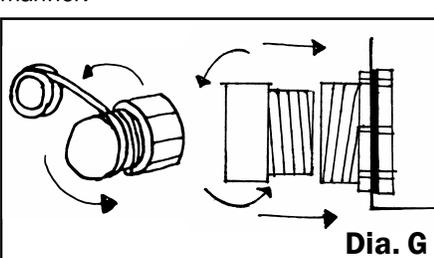


**Dia. F**

→ **TIP: Wet the ends of the Fernco Couplings to ease sliding them onto the 3" Cleanout Adapters.**

8. Make any final adjustments to the position of the filter chambers. Using **PVC Cement** and **3" PVC Pipe**, attach a **3" Knife Valve** to each input of the **Vortex Chamber**. Allow to dry and then attach the feed line(s) from the pond to the **3" Knife Valve(s)** in the same manner.

9. Wrap the threads of the **1½" Male Adapters** with **Teflon Thread Tape** three to four times. Thread the **1½" Male Adapters** into the **1½" Bulkhead Fittings** at the bottom of each filter chamber. Hand-tighten only. (Diagram G)



**Dia. G**

10. Using **PVC Cement** and **1½" PVC Pipe**, glue a **1½" Slip Tee** to the **1½" Male Adapter** on the **Bio Chamber**. In the same manner, attach the **1½" Drain Valves** to the **1½" Male Adapters** on the **Vortex** and **Brush Chambers**. Attach pipe from the **1½" Drain Valves** on the **Vortex** and **Brush Chambers** to a drain line or sump.

11. Using **PVC Cement**, glue a **1½" Drain Valve** to one end of the **1½" SLIP Tee**. Attach your pump to the other end of the **1½" Tee**. **NEVER RESTRICT THE INTAKE OF YOUR PUMP.**

12. Place the **3" Standpipe Assembly** into the input port of the **Brush Chamber**. DO NOT GLUE. Place the appropriate number of **Black Magic Brushes** on each **Support Rod**. (Diagram H)

13. Place the **Support Grate** into the bottom of the **Bio Chamber**. Place the two **Biological Filter Mats** on top of the **Support Grate**.

14. Close all **1½" Drain Valves** and fill your pond. Check for leaks on all fittings. Turn on pump. Your **Cyclone 5000** is now installed!

## Maintaining Your Filter

clarity. Please follow the recommended maintenance instructions to gain the best performance from your filter.

The vortex chamber of the **Cyclone 5000** is specially designed to remove larger solid wastes (fish waste, leaves, etc.) passively. The vortex chamber should be cleaned as needed, but not less than once every two weeks. Cleaning the vortex chamber is very easy:

1. Open drain valve and let accumulated debris drain
2. Close drain valve

The brushes in your **Cyclone 5000** are designed to trap smaller solid wastes before they reach the biological portion of your filter. You should clean the brush chamber regularly (but not more than once a week) to flush accumulated wastes before they decompose. Cleaning the brushes is very easy:

1. Turn off pump and close the 3" knife valve
2. Shake brushes to release debris
3. Open drain valve and let the accumulated debris drain
4. Close drain valve and turn on pump
5. Repeat if necessary

The filter matting in the biological section of your filter provides an area for beneficial nitrifying bacteria to colonize and break down harmful wastes such as ammonia and nitrite. It will require only infrequent cleanings with pond water. To clean the biological portion of your filter:

1. Turn off pump and close the 3" knife valve
2. Shake filter matting to release debris
3. Open drain valve and let the accumulated debris drain
4. Close drain valve, open 3" knife valve and turn on pump

**IMPORTANT NOTE: NEVER** use tap water to clean the biological chamber of the filter. Use **pond water only** to preserve the colony of beneficial nitrifying bacteria. **Failure to do so will severely effect the performance of your filter!**

### Rod

### Brushes

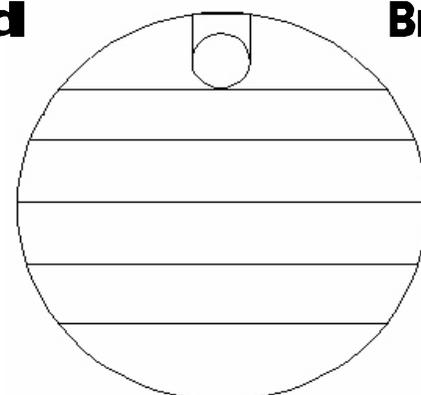
24½"

32"

34"

32"

24½"



4

5

6

5

4

Proper maintenance of your filter will yield the best water quality and

# Troubleshooting

Here is a list of common problems and their solutions. If you do not find a solution, please contact your pond dealer or write to us at:

Patio Ponds Ltd  
Attn: Technical Support  
2909 Urbana Pike  
Ijamsville, MD 21754

Please include your address and a daytime phone number with your letter.

## Filter Overflows

Filter is too low. Check to make sure your Cyclone 5000 is sited at the proper level. If the filter is sited too low, you will need to raise the filter or lower the pond's water level for proper operation.

Water level is too high. As the water level rises in your pond, it will rise in your Cyclone 5000. After a heavy rain you may find the pond at too high of a level for proper operation. Drain water from the pond until it reaches the proper level and consider installing an overflow pipe at the top of the pond.

## Not Enough Water in Filter

Filter is too high. Check to make sure your Cyclone 5000 is sited at the proper level. If the filter is sited too high, you will need to lower the filter or raise the pond's water level for proper operation.

## Bio Chamber Runs Dry

Filter is too high. Check to make sure your filter is sited at the proper level. The water level should be at least 1" above the inter-tank fittings. If the water level is lower, the volume allowed into the bio chamber is decreased.

Intake is clogged. If enough large debris clogs the pond intake, the amount of water flow allowed into the filters will decrease. Clear any debris out of the pond intake and feed lines.

Feed line from pond is too small/too long. The intake for the Cyclone 5000 is not under pressure, and must be of proper diameter to allow unrestricted flow. Use pipe of at least 3" diameter. If your Cyclone 5000 is to be installed more than 15 feet away from your pond, consider using a second input to the filter or boosting the connecting pipe to 4 or 6". For very long runs (50 feet or more), use two inputs and connecting pipe of at least 6".

Pump is too strong. Check your pump to make sure it does not pump over 3,000 gallons per hour. If your pump fills a 5 gallon bucket in under 6 seconds, you will need to regulate the flow with a valve.

## Water Remains Green

Filter has not yet established enough biological activity. Your filter relies on a living organism (nitrifying bacteria) to keep your water clear. However, it must reproduce in sufficient numbers before your pond will clear. Your filter will need to remain undisturbed for 4-8 weeks with water temperatures over 60°F for proper biological activity to establish. Adding "bacteria in a bottle" specifically designed for ponds can help speed this process.

Filter is being cleaned improperly. Improper cleaning can kill the colony of nitrifying bacteria and harm the balance of your pond. **NEVER** use tap water to clean the biological portion of your filter. Use **pond water only** to preserve the colony of

beneficial nitrifying bacteria. Failure to do so will severely effect the performance of your filter.

Filter is undersized/pond is overstocked. The Cyclone 5000 is rated to filter koi ponds up to 5,000 gallons and goldfish and plant ponds up to 9,000 gallons. Consider purchasing a larger Patio Ponds filter or reducing the stocking levels in your pond. In certain instances adding additional biological media to the biological chamber (such as bio-balls or other similar high surface area media) may provide the additional support needed for your pond.

Too many organics present in pond water/too few water changes. If too much decomposing debris is present or allowed to build up in the pond (leaves, fish waste, etc.) the filter may be overwhelmed. Be sure to perform partial water changes (25-30%) and vacuum the debris from the bottom of your pond about once a month during the spring and summer months. Always make sure to dechlorinate the replacement water.

Other factors. Sometimes ponds will refuse to clear for many reasons that cannot always be explained. Strong sunlight, high temperatures and various water parameters can all influence the performance of your filter. Consider purchasing a Ultraviolet Sterilizer/Clarifier to ensure clear water. Consult with your pond dealer for correct sizing of a UV Sterilizer.