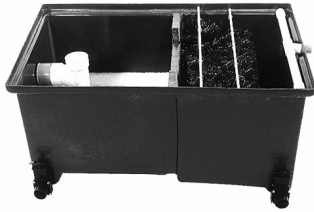


Big Sister 3500 Instruction Sheet



Thank you for purchasing a **Patio Ponds Big Sister 3500**. Your **Big Sister 3500** is a mechanical\biological filter designed to filter koi ponds up to 3,500 gallons and goldfish and plant ponds up to 5,000 gallons. The **Big Sister 3500** is capable of receiving flows up to 3,000 gallons per hour.

Parts List

Before you assemble your **Big Sister 3500** please take the time to familiarize yourself with the parts and components of the filter.

Your **Big Sister 3500** should contain the following:

- 1 - Spraybar with O-ring and Male Adapter
- 2 - Drain Valves with nut and gasket
- 1 - 3" PVC Bulkhead Assembly with O-ring
- 1 - Standpipe Assembly (1 "Tee" and 3" PVC pipe)
- 2 - Biological Filter Mats
- 8 - Black Magic Brushes
- 2 - Support Rods
- 1 - Warranty Registration Card

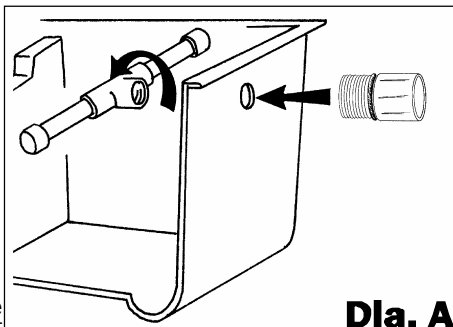
Additional Parts Needed

Assembly of the **Big Sister 3500** is simple, requiring few tools if any. However, you will need the following items from your local hardware store before you begin assembly:

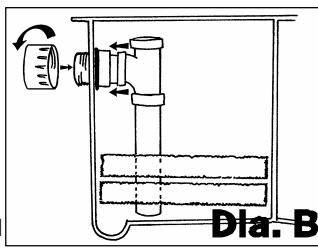
- Teflon Thread Tape
- PVC cement
- Pure, fish-safe Silicone Sealant (optional)
- 3" PVC Pipe (length needed depends on application)
- PVC elbows and connections (type and number varies with application)

Assembly Instructions

1. Push the **O-ring** over the threads of the **1" Male Adapter** until the **O-ring** reaches the last thread. Insert the **1" Male Adapter** with **O-ring** into the small hole at the front of the unit. Attach the **Spraybar** to the threads of the **1" Male Adapter**. Hand tighten until **Spraybar** is horizontal and firmly attached. (Diagram A)



2. Wrap the threads of the **3" Bulkhead Assembly** 2-3 times with **Teflon Thread Tape**. Push the **O-Ring** over the male threads until it reaches the last thread. Place male end of the **3" Bulkhead Assembly** into the large outlet hole from the inside of the filter. Thread female end of the **3" Bulkhead Assembly** onto the male end until hand tight. You may wish to place a bead of **Silicon Sealant** around the fitting to preserve the **O-ring**. (Diagram B)

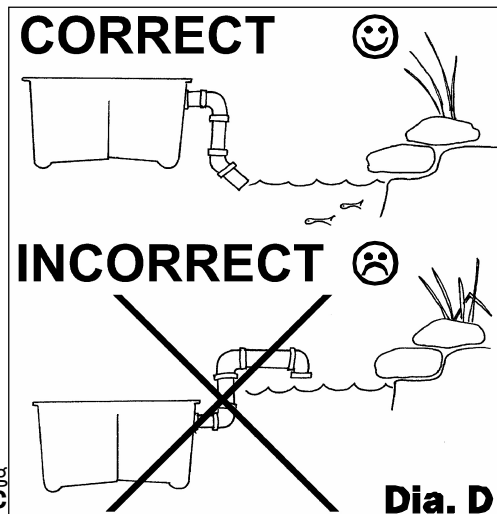
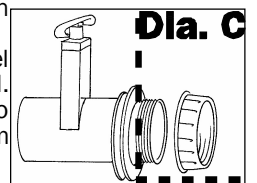


3. Insert pipe end of the **Standpipe Assembly** into the pre-cut holes in the **Biological Filter Mats**. Slide the "Tee" portion of the **Standpipe Assembly** into the **3" Bulkhead Assembly**. (Diagram B)

4. Install the **Drain Valves** into the drain holes. Be sure the **Gasket**

is on the outside of the filter. Hand-tighten only. (Diagram C)

5. Place your **Big Sister 3500** on a hard, level surface with the output **above** pond level. This is needed to allow the return water to feed back into the pond via gravity. (Diagram D)



6. Using **PVC cement** and **3" PVC pipe** to the **3" Bulkhead Assembly**. Construct and install an appropriate run of pipe to return water to your pond or waterfall. (We recommend the use of hard PVC ONLY to prevent collapse of line.) (Diagram D)

7. Run flexible tubing or hard pipe(not included) from your pump to the **1" Male Adapter** on your **Big Sister 3500**. You may need to acquire an adapter from your pond dealer to adapt your hose or pipe to the **1" Male Adapter**.

8. Plug in pump, allow unit to fill. Check for leaks on all PVC fittings. Your **Big Sister 3500** is now installed!

Maintaining Your Filter

Proper maintenance of your filter will yield the best water quality and clarity. Please follow the recommended maintenance instructions to gain the best performance from your filter.

The brushes in your **Big Sister 3500** are designed to trap 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
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
2. Shake filter matting to release debris
3. Open drain valve and let the accumulated debris drain
4. Close drain 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!**

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

Flow is too strong. Check your pump to make sure it does not pump over 3,000 gallons per hour at the height of your filter. If your pump fills a 5-gallon bucket in under 6 seconds, you will need to regulate the flow with either a valve or diverter.

Outlet pipe is too small/too long. Because the outlet of the Big Sister is not under pressure, the flow rate out of the filter is limited by pipe friction and diameter. Be sure to use PVC pipe of at least 3" inside diameter. Long runs of pipe (15 feet or longer) or runs of pipe with many turns may require a larger diameter pipe such as 4" to overcome friction losses.

Filter is below pond level. The Big Sister is not a pressurized filter. Because of this, the filter must be placed above pond level to allow the return flow to drain downhill. Refer to the Assembly Instructions for proper filter placement.

Water Overflows Top of Standpipe Assembly

Filter pads are clogged. The Big Sister is designed with an overflow protection feature to ensure your filter will operate with clogged filter pads. However, the water will bypass the media and you should clean the filter pads per the maintenance instructions.

Filter pads are underneath standpipe assembly. In some instances the filter pads may become lodged under the standpipe. Simply re-align the pads to allow unrestricted flow through the media.

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 Big Sister 3500 is rated to filter koi ponds up to 3,500 gallons and goldfish and plant ponds up to 5,000 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.