

Little Sister 2000 Instruction Sheet



Thank you for purchasing a **Patio Ponds Little Sister 2000**. Your **Little Sister 2000** is a mechanical\biological filter designed to filter goldfish and plant ponds up to 2,000 gallons and koi ponds up to 1,000 gallons. The **Little Sister 2000** is capable of receiving flows up to 1,000 gallons per hour.

Parts List

Before you assemble your **Little Sister 2000** please take the time to familiarize yourself with the parts and components of the filter.

Your **Little Sister 2000** should contain the following:

- 1 - Spraybar with O-Ring and Hose Adapter
- 2 - Drain Valves
- 1 - Standpipe Assembly (1 "Tee" and 1½" PVC pipe)
- 3 - Biological Filter Mats
- 3 - Black Magic Brushes
- 1 - Support Rod
- 1 - Warranty Registration Card

Note: During shipping, the brushes' bristles may deform. If needed, blow hot air over brush to restore shape.

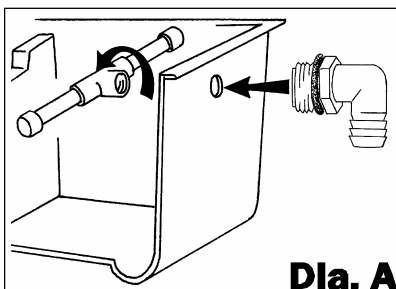
Additional Parts Needed

Assembly of the **Little Sister 2000** is simple, requiring few tools if any. However, you will need the following items from your local hardware store before you begin assembly:

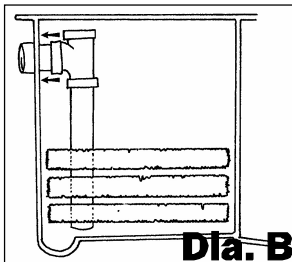
- Teflon Thread Tape
- PVC cement
- 1 - PVC 1½" Male Adapter
- 1½" PVC Pipe (length needed depends on application)
- PVC elbows and connections (type and number varies with application)

Assembly Instructions

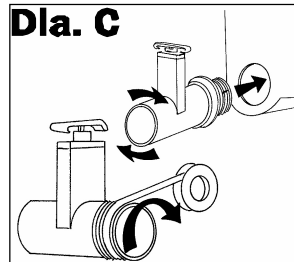
1. Push the **O-ring** over the threads of the **Hose Adapter** until the **O-ring** reaches the last thread. Insert the **Hose Adapter** with **O-ring** into the small hole at the front of the unit. Attach the **Spraybar** to the threads of the **Hose Adapter**. Hand tighten until **Spraybar** is horizontal and firmly attached. If necessary, twist the spraybar ends so they are pointing down. **DO NOT GLUE** the spraybar, as you may need to disassemble it occasionally for cleaning. (Diagram A)



2. Insert **Standpipe** into the pre-cut holes in the **Biological Filter Mats**. Slide the "Tee" portion of the **Standpipe Assembly** onto the output of the filter.

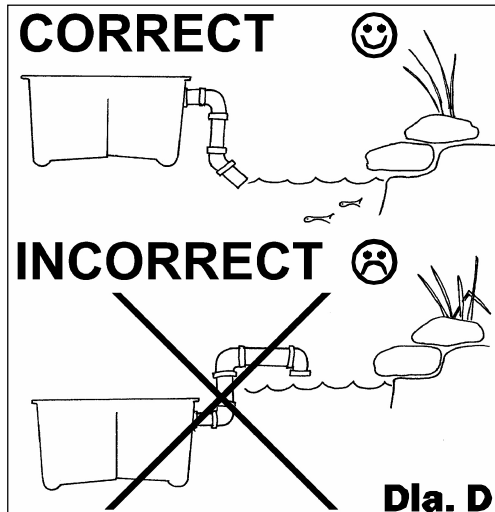


(Diagram B)



3. Wrap the threads of the **Drain Valves** 2-3 times with **Teflon Thread Tape**. Thread the **Drain Valves** into the drains until they are snug. (Diagram C)

4. Place **Little Sister 2000** on level with the above level. needed the water to back into via (Diagram 5. Wrap threads **Male** 2-3 times **Teflon** **Tape**.



into output of filter. Using 1½" **PVC** and **PVC Cement**, cement **PVC** pipe to the 1½" **Male Adapter**. 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)

your **Sister** a hard, surface output pond. This is to allow return feed the pond gravity. D) the of a 1½" **Adapter** with **Thread**

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 **Little Sister 2000** 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 1,000 gallons per hour at the height of your filter. If your pump fills a 5-gallon bucket in under 20 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 Little 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 1½" 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 2" or 2½" to overcome friction losses.

Filter is below pond level. The Little 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 Little 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 Little Sister 2000 is rated to filter goldfish and plant ponds up to 2,000 gallons and koi ponds up to 1,000 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.