

Twister Settling Chamber Instructions

Thank you for purchasing a **Patio Ponds Twister Settling Chamber**. Your **Twister** is a vortex settling chamber designed to filter ponds over 6,000 gallons. The **Twister Settling Chamber** is designed for flows over 3,500 gallons per hour.

Parts List

Before you assemble your **Twister Settling Chamber** please take the time to familiarize yourself with the parts and components of the filter.

Your **Twister Settling Chamber** should contain the following:

- 2 - 4" Male Adapters
- 2 - 4" O-rings
- 2 - 4" Female Adapter
- 1 - 3" Bulkhead
- 1 - 3" Male Adapter
- 1 - 3" Drain Valve
- 1 - Warranty Registration Card

If you have chosen the extra 4" input option, you will receive an additional 4" Male Adapter, 4" O-ring and 4" Female Adapter.

Additional Parts Needed

Assembly of the **Twister Settling Chamber** 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)
- 4" PVC Pipe (length needed depends on application)
- 3" Knife Valve(s)
- PVC elbows and connections (type and number varies with application)
- External Centrifugal Pump (3,500 minimum rated flow)
- Concrete mix
- Steel Re-bar

Assembly Instructions

1. Prepare an area to install your Twister Settling Chamber. When installed, the water level in the **Twister Settling Chamber** 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 4" diameter. If your **Twister Settling Chamber** 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 6 or 8". 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 6" thick to accommodate the base of the **Twister Settling Chamber**. This is necessary to prevent settling of the filter,

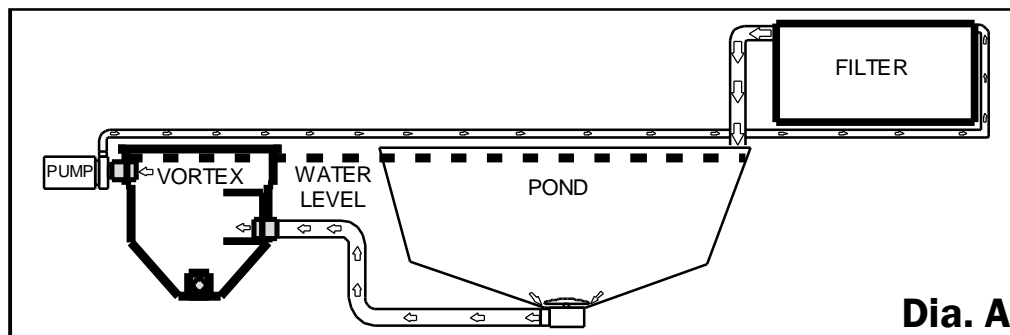
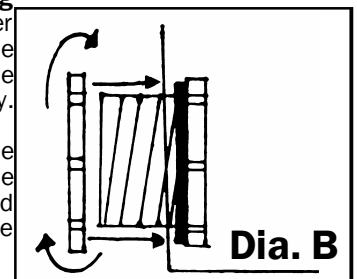
which will weigh over 2,000 pounds when filled with water! Allow the concrete the appropriate amount of time to set and harden before proceeding to the next step.

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

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

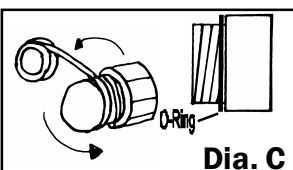


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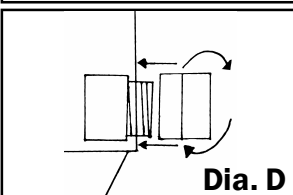
4. Using **Teflon Thread Tape**, wrap the threads of the **4" Male Adapter** three to four times. Push a **4" O-ring** onto the threads of the **4" Male Adapter** until it reaches the last thread. (Diagram C)

5. Place a **4" Male Adapter** on the inside of the input port on the **Vortex Chamber**. Attach a **4" Female Adapter** to the exposed threads of the **4" 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)

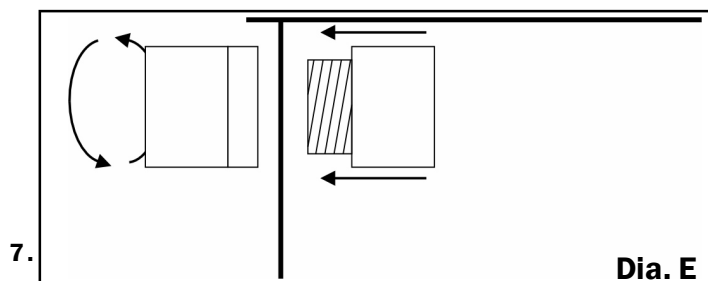
6. Place a **4" Male Adapter** on the inside of the chamber's top inlet/outlet port. Attach a **4" Female Adapter** to the exposed threads of the **4" Male Adapter**. Hand-tighten only. If desired, add a bead of **100% Fish-Safe Silicon Sealant** around the **O-ring** prior to tightening. (Diagram E)



Dia. C



Dia. D

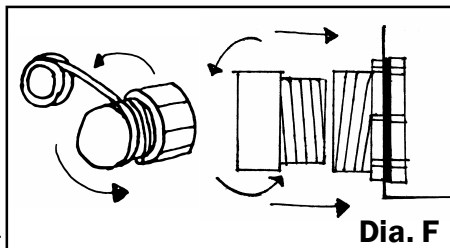


Dia. E

7. Make any final adjustments to the position of the vortex chamber. Using **PVC Cement** and **4" PVC Pipe**, attach a **4" Knife Valve** to each input of the **Vortex Chamber**. Allow to dry and then attach the feed line(s) from the pond to the **4" Knife Valve(s)** in the same manner.

8. Wrap the threads of the **3" Male Adapter** with **Teflon Thread Tape** three to four times. Thread the **3" Male Adapter** into the **3" Bulkhead Fitting** at the bottom of the chamber. Hand-tighten only. (Diagram F)

9. Close the **3" Drain Valve** and fill your pond. Check for leaks on all fittings. Turn on pump. Your **Twister Settling Chamber** is now installed!



Dia. F

Proper

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 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 Settling Chamber 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 Settling Chamber. After a heavy rain you may find the pond at too high of a level and consider installing an overflow pipe at the top of the pond.

Not Enough Water In The Chamber

Filter is too high. Check to make sure your filter 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.

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

Feed line from pond too small/too long. The intake for the Twister Settling Chamber is not under pressure, and must be of proper diameter to allow unrestricted flow. Use pipe of at least 4" diameter or greater. If your Twister Settling Chamber is to be installed more than 15 feet away from your pond, consider using a second input to the chamber or boosting the connecting pipe to 6 or 8". For very long runs (50 feet or more), use two inputs and connecting pipe of at least 6" diameter or greater.

Maintaining Your Filter

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 **Twister Settling Chamber** 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. Turn off pump system
2. Open drain valve and let accumulated debris drain
3. Close drain valve
4. Repeat if necessary