

# Turbovortex Owner's Manual

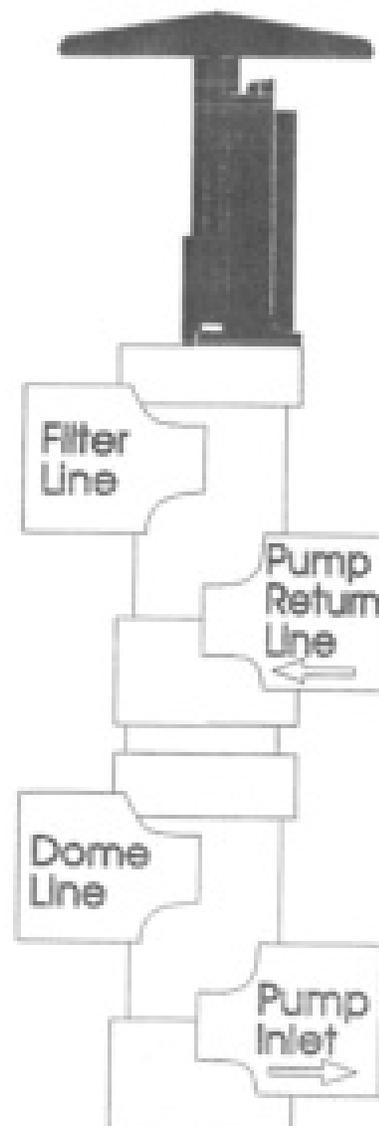


# TURBOVORTEX SLIDE VALVE PLUMBING INSTRUCTIONS

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Due to variation of setup at different sites, it is highly recommended that the slide valve assembly be plumbed to the pump first.

For simplicity we are showing you the "side view" of the valve itself to indicate which ports are to be plumbed to specific connections.

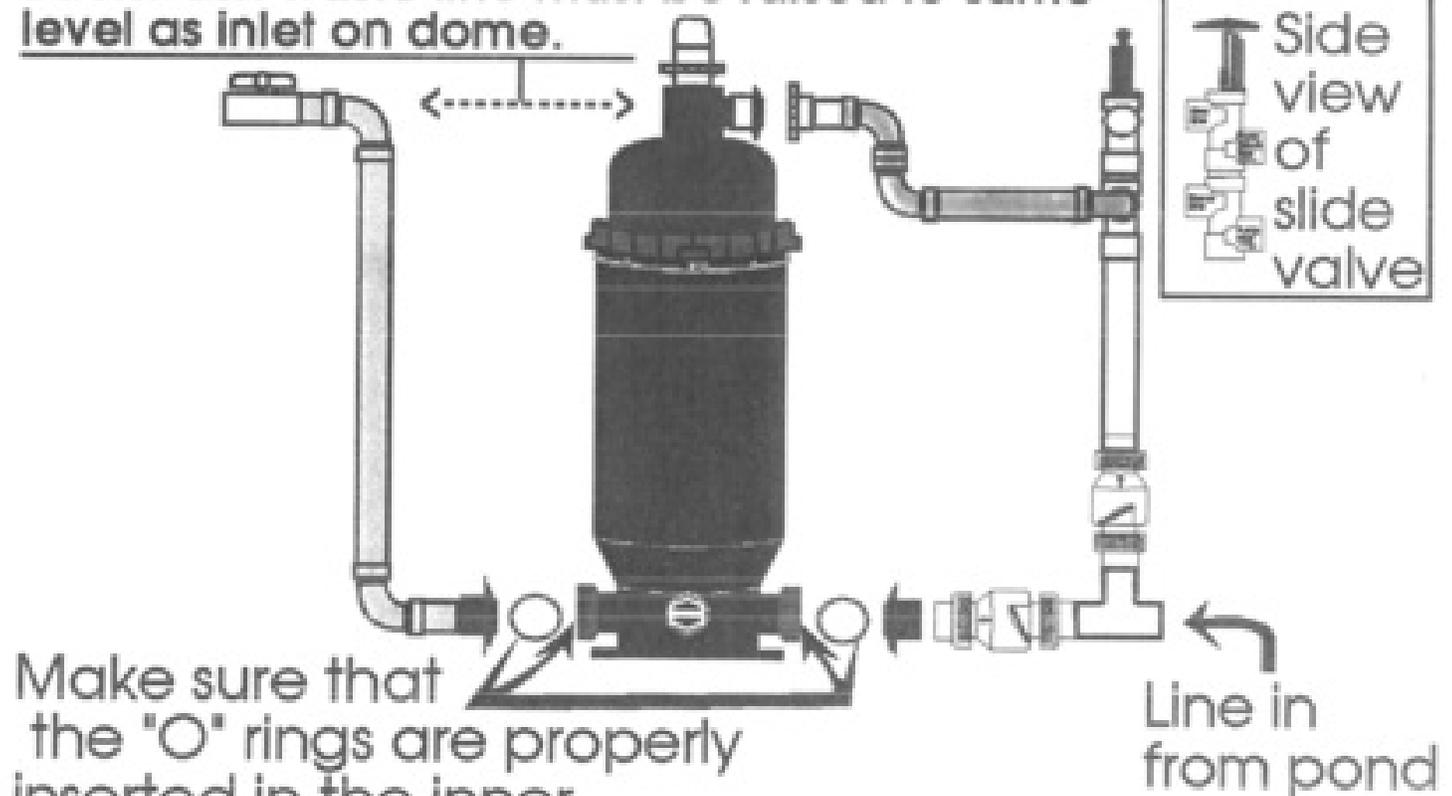


**TURBOVORTEX**  
**ASSEMBLY INSTRUCTIONS**  
*Please read through entire manual  
before starting installation*

# Important

It is recommended that the slide valve assembly be plumbed to the pump first.

Backwash waste line must be raised to same level as inlet on dome.



Make sure that the "O" rings are properly inserted in the inner grooves of the of the unions.

If you have any questions after reading the manual please contact your dealer or call 405-843-9060 for further technical assistance.

# **Fluidart Technologies TURBOVORTEX Owners Manual**

**Congratulations on making the smart choice!**

**Fluidart Technologies filtration systems are designed with the pond owner in mind. Our filtration systems are unparalleled in quality, performance, ease of operation, and maintenance. We are certain that you will have many years of happy Koi keeping with our system.**

**Contact us at [info@fluidart.com](mailto:info@fluidart.com) or phone 1-888-499-3852  
or 405-843-2009**

## **INTRODUCTION TO THE TURBOVOREX SOLIDS SEPERATOR**

**Congratulations on making a choice that will decrease the maintenance and increase the enjoyment of your pond. The Turbovortex Solids Separator is a patented prefilter that sits in front of your pump. It is designed to stop large solids such as string algae, pine needles, leaves, and fish waste before they get into the strainer basket of you pump or your filter. This translates into a marked decrease in pump strainer basket cleaning and decreased solids in the filter. Reducing strainer basket opening speaks for itself, however reducing the solids that make it into your filter will greatly improve the biofiltration efficiency of the filter. The longer the beads go in a clean rather than a clogged condition, the more biosurface is available for ammonia conversion. Reducing the solids in the main filter will also decrease the backwash time and the amount of water that is lost with backwash. As you can see, having a prefilter that stops the large solids has many advantages and to top it off the Turbovortex is backwashable. There is no need for wet and dirty hands in cleaning the filter and you will be set free from daily strainer basket opening.**

### **How does the Turbovortex work?**

**Think of the Turbovortex Solids Separator as a very large strainer basket with much more surface area for solids capture than a pump strainer basket. The Turbovortex is a suction vessel, just as the strainer basket of the pump. Water enters at the base of the filter and move up through a thick layer of bio-balls. As pond water enters the vessel, any large solids that are carried into the vessel will settle out on a settling plate at the base of the filter. From here they will be easily backwashed out. The smaller lighter weight solids will float up and be trapped in the layer of bio-balls before passing on to the pump strainer basket or the filter. On backwash the flow is reversed and the vessel becomes a pressurized rather than a suction vessel. Now the water enters the top of the vessel through the vortex cap that accerates the water in a circular motion. As the water enters the main vessel spinning, it breaks up the bio-balls that have trapped solids, releasing the solids to be carried out the base of the filter.**

# Installation Instructions

**\*Note\*** The Turbovortex is a suction vessel and it is not recommended for installations that are elevated above the pond level. It is best to install it as below or as close to pond water level as possible. This will help in maintaining prime and reduce the vacuum (negative) pressure the tank and unions must withstand.

- 1. Remove the Turbovortex from the box and locate the two bags of bio-balls. Set these aside.**
- 2. Place the base at the site of installation. We recommend that the Turbovortex be installed on a pad of some sort (concrete/plastic) in a level location as close to the pond water level as possible.**
- 3. Attach the valve assembly and backwash line as shown in the following diagram. IMPORTANT- Make sure the "O" rings are properly inserted in the inner grooves of the unions at the base of the tank.**
- 4. Attach the pump to the valve assembly as shown in the installation diagram. Also plumb the backwash line so that backwash water is discharged away from the filter site. This will prevent settling of the filtration system due to wet ground. IMPORTANT- Be sure that the vertical backwash line is not on any bind, which would make it angle or pull away from the Turbo vortex tank. In this situation, the union of the backwash line, at the base of the tank, will pull open and allow air into the tank. This can cause loss of prime or decrease flow.**
- 5. Next fill the tank one half full of water and empty one bag of bio-balls into the tank. IMPORTANT- If the tank is not filled with water first, bio-balls may get lodged in the input line and adversely affect the flow and operation of the filter.**
- 6. Now place the dome on the base. Make sure that the "O" ring gaskets on the dome and the top of the base are in position and lubricated. Now push down the dome firmly until it seats into place. Next lay the lock ring down over the threaded section of the base and spin it clockwise. Make sure that the ring and the threads on the base do not get crossthreaded. Turn the ring until it is snugly tight. \*VERY IMPORTANT\* Do not tighten the lock ring to the point that the lock clips under the hand grips on the lock ring, lock into the lock flanges of the base. If this occurs then you will need a second set of hands to get the lock ring off if you ever need to get inside of the Turbovortex. (see Internal inspection)**
- 7. Open the priming cap. If you are using a filter with a multiport valve, place it in the "Closed" position. Now fill the Turbovortex with water until it over flows out of the top. Quickly replace the cap.**
- 8. Move the main filter multiport valve to the "Filter" position and turn on the pump. You should be up and running at this point.**

9. **\*IMPORTANT\*** Pay special attention to the clear swing check valve at the base of the filter. Water is flowing in from the pond through this valve. If you see air bubbles coming in through this valve, the unions of the valve may need to be tightened. If this does not correct the air entry, then consider the unions between the swing check and the pond. Since this is a suction line, one of the joints in the piping from the pond may be sucking air. This is a problem in that if enough air is coming into the Turbovortex you may lose prime and the water flow will slow or shut off.

**\*SPECIAL NOTE\*** When lubricating the "O" ring gaskets at the base of the filter and the large "O" rings at the top of the base, use only silicone based lubricants. The push/pull valve will also eventually need to be lubricated. Also use the same silicone type lube. **DO NOT USE PETROLEUM BASED LUBRICANTS.** Magic lube works well and can be obtained at most pool and spa stores.

## **TURBOVORTEX OPERATION INSTRUCTIONS**

### **BACKWASH INSTRUCTIONS**

1. Turn off the pump.
2. Turn the handle of the push/pull valve and pull up. Be sure to turn the handle into the locked up position as it is possible for the valve to slide down into the filter position.
3. Next open the Two-way valve on the backwash line. The handle of the valve should be parallel with the pipe for backwash and perpendicular to the pipe during filtration mode.
4. Turn on the pump and watch the sight glass section on the backwash line. When it runs clear, turn off the pump for 10-15 seconds and turn the pump back on for a few seconds. You may see another cloud of debris leave through the sight glass. Repeat with short backwash intervals until little debris leaves the filter.
5. Turn off the pump and close the valve on the backwash line and then turn the handle of the push/pull valve and push it down into the filter mode. Again turn into the locked position.
6. Turn the pump back on and you are done backwashing the Turbovortex. You may now want to backwash the main filtration system.

### **INTERNAL INSPECTION**

**If you live in an area where string algae or anything similar is a big problem, you may want to open the Turbovortex occasionally and inspect the condition of the Bio-Balls. In heavy load situations they can get totally loaded with string algae that does not come off during backwash. When fully loaded with debris, the Bio-Ball's ability to stop particulates decreases. In this situation, you may notice that suddenly your having to open the strainer basket of the pump and clean it. If this occurs it is time to open the Turbovortex and replace the Bio-Balls with the second bag of Bio-Balls**

**provided. The dirty Bio-Balls can then be cleaned by letting them dry and spraying them off or running them through your clothes washing machine. To open the Turbovortex do the following:**

- 1. Turn off the pump. Open the drain plug at the base of the tank and then open the priming cap at the top of the filter. Water will drain out of the tank.**
- 2. Now turn the lock ring, that holds the dome in place, in a counter clockwise direction. If you have not over tightened the ring this should not be too difficult to do. If you have any problems lightly tap on one of the hand grips with a hammer in a counter clockwise direction. If you have tightened the lock ring to the point that the lock clips under the hand grips have locked into the base, you will need a second pair of hands to help you get the lock ring off. Someone will have to squeeze the lock clips up while you tap on the other hand grips with a mallet or hammer. When loose spin off.**
- 3. Lift the lock ring off the dome and in a gentle rocking fashion lift up on the dome. It should lift off without too much effort.**
- 4. Now inspect the condition of the Bio-Balls and replace if needed. Be sure close the drain plug at the base of the filter and fill the tank one half full of water before adding the second set of Bio-Balls.**
- 5. Replace the dome and spin the lock ring into place. At this point it is a good idea to relubricate the "O" ring on the outside upper edge of the base. Use a silicone type of lubricant. Do not use petroleum based lubricants. Magic lube works well and can be obtained at most pool and spa stores. Now only snugly tighten the lock ring into place. DO NOT TIGHTEN TO THE POINT THAT THE LOCK CLIPS LOCK ON TO THE LOCK FLANGES OF THE BASE.**

6. **Reprime the Turbovortex.** Placing the main filter valve in the closed position may help if priming is a problem. If you do place the multiport valve in the closed position be sure to move it back to the filter position before turning the pump back on, otherwise you may over pressurize the system.
7. **When primed, turn the pump back on and you're done.**

### **WINTERIZING THE TURBOVORTEX**

If you live in a area that experiences hard freezes you may want to shut you filter system down for the winter. To winterize the Turbovortex, follow the above internal inspection procedure, but leave empty for the winter. Restart as above. It is a good idea to relubricate all the "O" rings of the Turbovortex before restarting. There are two at the base and two at the top of the Turbo. One is on the inner flange of the dome and the other is around the outer edge of the top of the base.

### **TROUBLE SHOOTING**

Most of the problems associated with the Turbovortex are related to loss of prime or sucking air in through the lines of system before the Turbovortex. Both will affect flow through the filtration system. Since the Turbovortex is a suction vessel air will be sucked into any pipe joint or union that is not well glued or well tightened. If you are experiencing flow problems or priming problem consider the following:

#### **PRIMING PROBLEMS**

1. **With the installation instructions we recommended that a swing check valve be installed below the water level in front of the Turbovortex.** This is especially important if the Turbovortex is installed above water level. If this has not been done and you are having problems priming the Turbovortex, now is the time to do this. The swing check valve will prevent the water used for priming, from running back to the pond.
2. **If swing check valves are in place and you are still having problems priming, be sure that you have tried closing the multiport valve on main filter while trying to prime.** In some situations the priming water will run through the filter and back to the pond. Closing the valve will prevent this. If this doesn't work the Turbovortex may be sucking air and causing the loss of prime.

## **AIR ENTRY INTO THE SYSTEM**

**If the Turbovortex is sucking air from any source it will make it hard for it to suck water from the pond and can eventually trap enough air to loose prime. If you can get the Turbovortex to prime and run for awhile then it looses prime, you are probable sucking air at some point. Try the following:**

- 1. Inspect the bottom drains, skimmer, and water return pipes to be sure that they are open and clear. If they are clogged with leaves and preventing water from leaving the pond, this will cause more negative suction pressure on all unions and the tank. This can cause air to be sucked into unions that would not normally suck air. If these are clear:**
- 2. Open the dome and inspect the "O" ring gaskets on the dome and at the top of the base. If these are not in good condition or have been moved out of position they can cause a significant amount of air to be sucked into the tank. Inspect these gaskets and liberally relubricate with a silicone based lubricant before replacing the dome.**
- 3. Next inspect the "O" ring gaskets on the unions at the base of the Turbovortex. These gaskets are in the black unions that attach to the tank. You will need to undo these unions and relubricate them.**
- 4. Be sure that backwash line coming off the base of the filter and rising up, is not on any bind that would make it lean away from the body of the Turbovortex. This will make the union and the "O" ring gasket to pull open and allow air entry.**
- 5. If you can get the Turbovortex to prime and run for a while, inspect the clear swing check valve on the intake line from the pond. If you notice air coming in through that valve, then the unions of the valve need to be tightened or air is coming in from in front of that union (Between the pond and the Turbovortex).  
Check all unions and pipe fittings between the pond and the Tu**
- 6. If the above procedures fail and the system is still sucking air, try pressurizing the system to see if you can get water to leak out of a joint. Water leaking out of a joint, would be a point where air would be sucked in during normal run. To pressurize the Turbo., do the following:**
  - A. Leave the valve on the backwash line closed and place the backwash valve in the backwash position. Now using only a pump that runs 1725rpm or a two speed pump on low**

**turn on the pump. \* NOTE\* DO NOT USE A HIGH PRESSURE PUMP OR A PUMP ON HIGH TO DO THIS TEST AS YOU MAY SPLIT THE TANK.**

**B. DO NOT PRESSURIZE BEYOND 10psi. Once pressurized look for water leaking out of any unions or joints. These would represent a point of air entry into the system under suction pressure. Remedy accordingly.**

**If you are still having problems call your dealer or us at:  
1-888-499-3852**