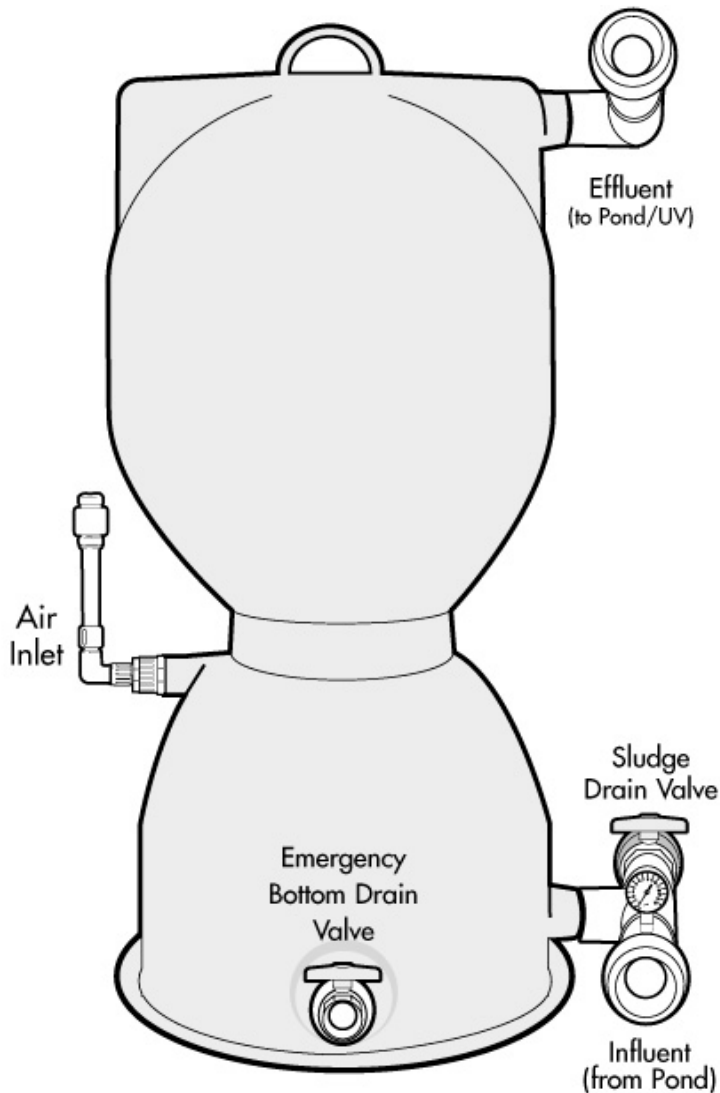


# Model BBF – XF 20000

## The Bubble Bead Filtration System



- Provides biological & mechanical filtration
- Uses low HP, low pressure pump
- Easy to install
- Closed filter – perfect to connect to UV
- Corrosion proof
- Superior solids removal
- Excellent nitrification
- No mechanical parts to wear out
- Compact footprint
- Weather & salt water resistant
- Proven product (over 10 years in development under the Louisiana State University Sea Grant Program)

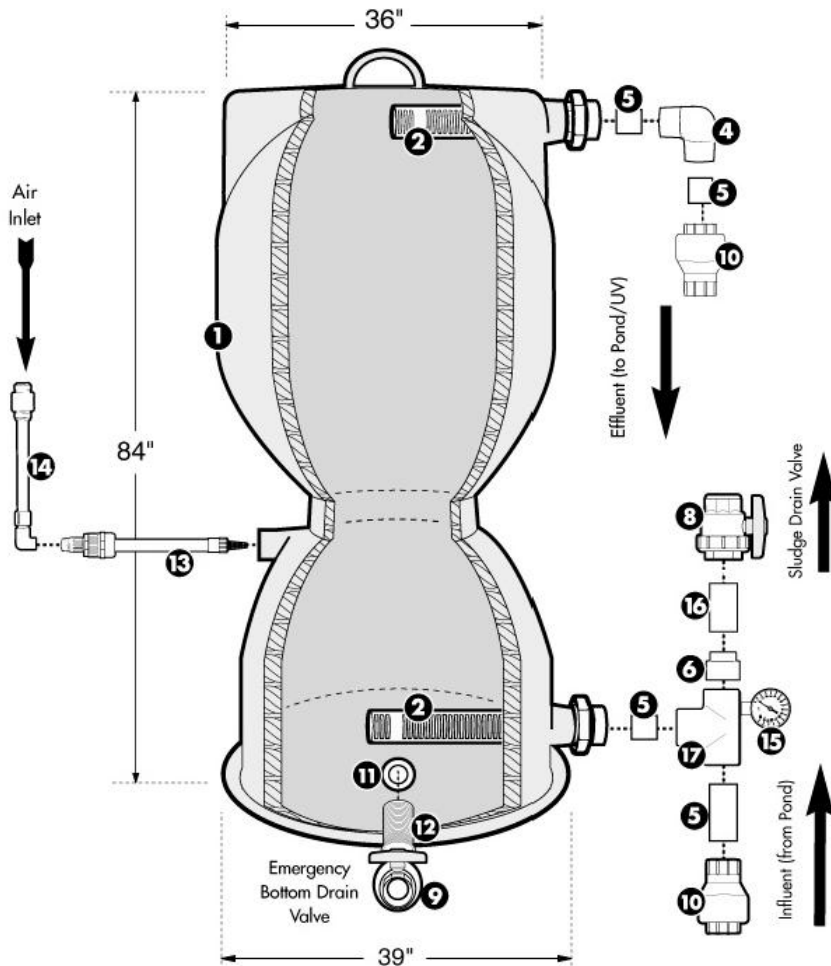
**For ponds up to 20,000 gallons • 10 cubic feet of bead media  
4,000 square feet of surface area • Maximum flow of 9,000 GPH (150 GPM)**

# AST<sup>TM</sup>

(504) 837-5575 • (504) 837-5585 fax  
info@astfilters.com • www.ASTfilters.com

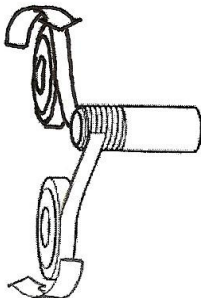
# BBF – XF 20000 Assembly Instructions

The following steps assume that a suitable pump (DO NOT EXCEED 15 PSI) has been installed and connected to a GFI-protected line. The use of a GFI around wet conditions cannot be over emphasized.



## Part # Description

- |    |   |
|----|---|
| 1  | Filter Tank   |
| 2  | Inlet/Outlet Screens (with 3" union connection) (2) |
| 3  | 330 lbs. Beads (not pictured)                       |
| 4  | 3" Street Elbow (sp x slip)                         |
| 5  | 3" PVC Pipe (not included) (4)                      |
| 6  | 3"x 2" Reducer Bushing (sp x s)                     |
| 7  | (No longer used)                                    |
| 8  | 2" Ball Valve (slip)                                |
| 9  | 1.5" Ball Valve (thread)                            |
| 10 | 3" Swing Check Valves (s x s) (2)                   |
| 11 | 1.5" Emergency Drain Port (FIPT)                    |
| 12 | 1.5" Close Nipple                                   |
| 13 | Air Inlet Screen (part B)                           |
| 14 | Air Inlet Check Valve Assembly (part A)             |
| 15 | 30 psi Pressure Gauge                               |
| 16 | 2" PVC Pipe (not included) (1)                      |
| 17 | 3" Tee (s x s x s)                                  |



## IMPORTANT!

Before assembly **ALL** threaded plumbing parts **MUST** have several wraps of Teflon tape or Teflon paste applied to the threads.

(Note: The direction the tape is wrapped is very important. If, when you install the fittings into the filter, the tape starts to peel off, remove and wrap in the opposite direction. Use Teflon tape or paste on all threaded fittings when assembling your Bubble Bead Filter.)

# BBF – XF 20000 Assembly Instructions

**\*IMPORTANT\*** Please read ALL instructions BEFORE assembling your Bubble Bead Filter. Also, a check valve (not included) should be installed between the filter and the pond on the inlet side to prevent the filter from backwashing into the pond due to pump or power failure.

Locate parts 2, 12, 13 and 15 and apply several wraps of Teflon tape or Teflon paste to the threads. (NOTE: The direction the tape is wrapped is very important. Wrap the tape counterclockwise to the threads. When you install the fittings into the filter, if the tape starts to peel off, remove the tape and wrap it in the opposite direction.)

After wrapping/pasting the fittings correctly with Teflon, continue assembly by completing the following steps:

**Step #1:** Thread Inlet Screen (#2) into the 3" threaded opening at the bottom of the filter tank (#1).

**Step #2:** Thread Air Inlet Screen (#13) into the threaded opening located in the center of the filter hull.

**Step #3:** Thread the FIPT end of the Air Inlet Check Valve Assembly (#14) onto the MIPT end of the Air Inlet Screen (#13) already installed in Step 2.

**Step #4:** Thread the 1.5" close nipple (#12) into the 1.5" ball valve (#9) then thread this assembly into the emergency drain valve port (#11). **Be sure the valve is closed.**

**CAUTION:** The purpose of the emergency drain valve (#9) is for the removal of sludge that may build up in the bottom of the filter. It should only be opened when the filter is full of water. Opening it once a month for a couple of seconds is more than adequate. If used improperly you can lose all of the beads in your filter.

**Step #5:** Pour the beads (#3) into the filter tank (#1) via the 3" opening located at the top of the filter. **The filter may be laid on its side or at an angle.**

**Step #6:** Thread the Outlet Screen (#2) into the 3" threaded opening at top of the filter.

**Step #7:** Using PVC primer and glue, glue the 3" Street Elbow (#4) into the union of Outlet Screen (#2). The direction the Elbow faces is at the installer's discretion.

**Step #8:** Using PVC primer and glue, glue a short piece of 3" PVC pipe (#5) into the Street

Elbow (#4)

**Step #9:** Using PVC primer and glue, glue one of the 3" Check Valves (#10) onto the short piece of PVC pipe glued to the 3" Elbow (#4) as described in Step #8. (If the Check Valve is installed in a horizontal position make sure to follow the instructions printed on the valve.) **Be sure the flow is directed away from the filter and back to the pond.**

**Step #10:** Using a short piece of PVC pipe (#5) glue the 3" Tee (#17) into the bottom Inlet Screen (#2) installed in Step #1.

**Step #11:** Using PVC primer and glue, glue the 3" x 2" reducer bushing (#6) onto the sludge drain side of the Tee (#17).

**Step #12:** Using PVC primer and glue, glue a short piece of 2" PVC pipe (#16) into the 3" x 2" reducer bushing (#6) installed in Step #11.

**Step #13:** Using PVC primer and glue, glue the 2" sludge drain valve (#8) onto the short piece of the 2" PVC pipe (#16) installed in Step #12.

**Step #14:** Using PVC primer and glue, glue a short piece of 3" PVC pipe (#5) into the inlet side of the Tee (#17).

**Step #15:** Using PVC primer and glue, glue the remaining check valve (#10) onto the short piece of 3" PVC pipe (#5) installed in Step #15. **Check to be sure the flow is directed from the pump into the filter** (see arrow on check valve).

**Step #16:** Using a 1/4" NPT pipe tap and 7/16" drill bit, tap the PVC pipe or fitting in the line between the pump and filter. Install the Pressure Gauge (#15).

# BBF – XF 20000 Operating Instructions

**NOTE: It is extremely important that the check valve in Step #9 above is installed for your filter to function properly. It is equally important that the second check valve is also installed (Step # 15) between the filter and the pump to prevent the filter from backwashing into the pond during a pump or power failure.**

Make sure all valves are set to the correct position. Start the pump. Check for leaks. You will hear some chattering from the beads as the filter fills. Once full, the noise will stop. If there are no leaks and the water output is normal, your Bubble Bead Filter is operating properly. You should check operation and connections every day. After your Bubble Bead Filter has been operating one or two days, you can help the biological process along by adding **One and Only Live Nitrifying Bacteria** from Dr. Tim's Aquatics ([www.drTIMSAQUATICS.COM](http://www.drTIMSAQUATICS.COM)), use coupon code **ASTBEADFILTERS** for a courtesy discount. This is the only bacteria on the market that we are aware of that contains bacteria specifically isolated from a pond environment.

The natural acclimation period for your new biological filtration should be 3-4 weeks in warm water (>80 deg F), longer in cooler water.

**IF YOU WILL NOT BE OPERATING THE FILTER DURING THE WINTER, DRAIN THE WATER FROM THE FILTER HULL AND OPEN ALL BALL VALVES TO PROTECT THEM FROM DAMAGE DUE TO FREEZING.**

# BBF – XF 20000 Backwash Instructions

To backwash your Bubble Bead Filter, follow these simple steps:

1. Turn the pump off or bypass the water flow.
2. Rotate the handle of the valve 90 degrees so that the valve to the drain line is in the open position. You will hear the vent valve sucking air and churning of the beads as air boils up into the filter. Best results are obtained when the filter is allowed to drain completely. Observe waste water; large particles caught by bottom screen will wash out first. Debris trapped by the beads will wash out near the end of the flush.  
**\*Note the faster the water drains from the filter the more vigorous the backwash.**
3. Rotate the handle of the valve 90 degrees so that the valve to the drain line is in the closed position. Now is a good time to clean the strainer basket on the pump, if necessary.
4. Turn the pump on. It is normal for the first 1 to 2 gallons of water flowing from the filter after a backwash to be cloudy. If this causes you concern, you can modify your plumbing to direct this water to the drain by installing a 3-way valve and directing the first flow to the drain; then return the flow to your waterfall or other water feature.

**Minimum flushing cycles (for heavy loading, more frequent cycles are necessary):**

- During Spring and Fall ..... Once a week
- During Summer ..... Three to four times a week
- During Winter ..... Once or twice a month

### LIMITED WARRANTY

Aquaculture Systems Technologies LLC (AST) warrants the material and workmanship to be free of defects under designated use and normal service on its **Bubble-Washed Bead Filters** for a period of one (1) year from the date of shipment. All warranty claims must be presented in writing to AST. Normal use and service requires the following:

1. The filter is installed and operated according to the installation and operational instructions supplied by the manufacturer.
2. The excessive weight due to heavy pipes, valves, etc., should not be carried by the inlets or outlets.
3. The filter hull pressure is at no time allowed to exceed the maximum pressure rating as specified by the manufacturer.

This warranty applies only to the original purchase price and is good only when the total payment for the equipment has been received. The limited warranty (expressed or implied) during the warranty period shall consist of the repair or replacement of the items of manufacture, at the discretion of **AST**, and said warranty applies only to the original purchaser. This warranty is void if the items are damaged by negligence or accident after purchase,

used for other than the intended purpose, altered, repaired at other than an authorized service center, or used with other items that affect the integrity, performance, or safety of these items. Liability does not cover indirect or consequential cost, including materials lost, labor or installation/reinstallation cost, injury, property damage, or damages caused by mishandling. Returns for repairs must be pre-approved and the “return authorization number” prominently displayed on the outside of the shipping container. **Returns will not be accepted without a “return authorization number.”** Returns for repair must be sent **FREIGHT PREPAID** to the following address:

**Aquaculture Systems Technologies LLC**  
**Attention: Warranty Repairs**  
2120 North 3rd Street  
Baton Rouge, LA 70802  
**(504) 837-5575 (504) 504-5585 fax**  
**info@beadfilters.com**

Manufacturer’s liability for incidental or consequential damages is specifically excluded to the full extent permitted by the applicable law. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state. **THIS WARRANTY IS EXCLUSIVE OF ALL OTHER IMPLIED WARRANTIES INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

Please complete the following for your records.

Filter Model #: \_\_\_\_\_  
Date Purchased: \_\_\_\_\_  
Purchased From: \_\_\_\_\_



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