

Model BBF – XS

The Bubble Bead Filtration System

U.S. Patent #5232586



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)

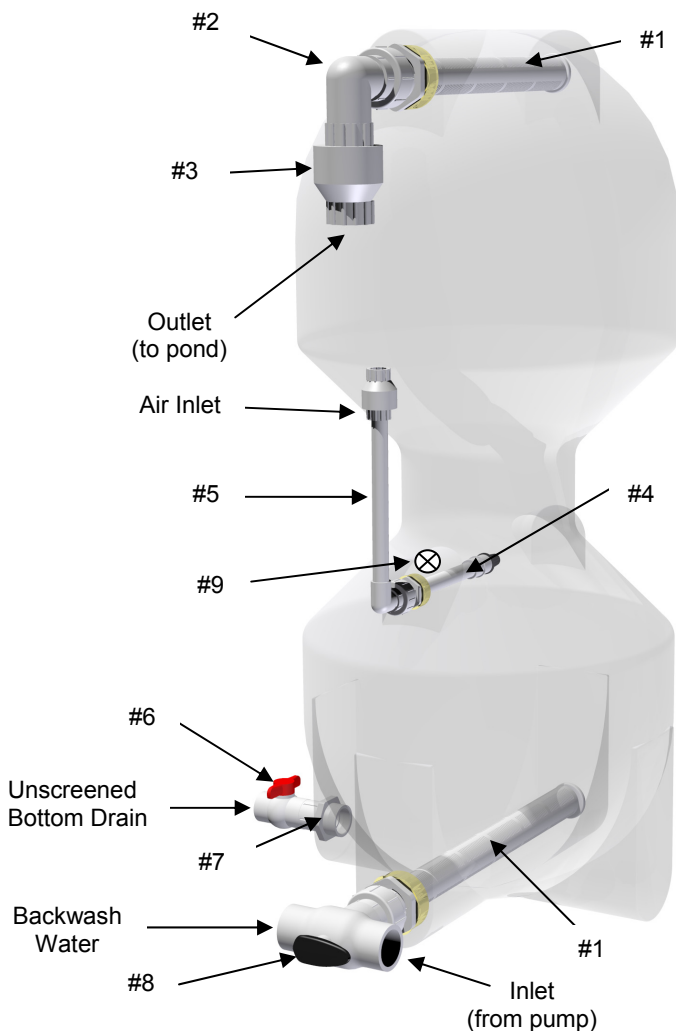
For ponds from 2,000 to 10,000 gallons • 1 to 5 cubic feet of bead media • 400 to 2000 sq. feet of surface area • Flow rates from 900 GPH (15 GPM) to 4,500 GPH (75 GPM)

ASTTM

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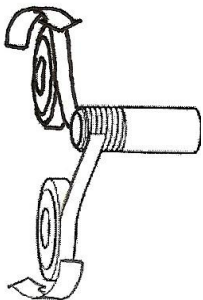
BBF – XS Assembly Instructions

The following steps assume that a suitable pump (DO NOT EXCEED 10 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	Inlet/Outlet screen (2) with union connections
2	90° Street Elbow (sp x slip)
3	Swing Check Valve
4	Air Inlet Pipe (Part B)
5	Air Inlet Check Valve (Part A)
6	1.5" Threaded Valve
7	1.5" Close Nipple
8	3-Way Valve (socket)
9	15 psi Pressure Gauge

BBF - XS PIPE SIZES	
Model #	Size
XS-2000	1-1/2"
XS-4000	1-1/2"
XS-6000	1-1/2"
XS-8000	2"
XS-10000	2"



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 – XS 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.

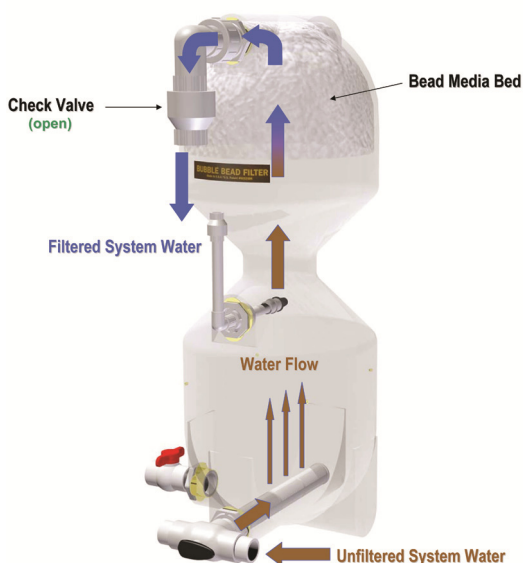
Locate parts 1, 4, 7 and 9 and apply several wraps of Teflon tape or Teflon paste to the threads. (NOTE: The direction the tape is wrapped is very important. Wrap the tape counterclockwise to the threads. When you install the fittings into the filter, if the tape starts to peel off, remove the tape and wrap it in the opposite direction.)

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

- Step #1:** Install Lower Inlet Screen #1 using Teflon tape or paste on all threads (at the base of filter).
- Step #2:** Install Close Nipple #7.
- Step #3:** Install Valve #6. (Make sure the valve is closed.)
- Step #4:** Install Air Inlet Pipe #4.
- Step #5:** Carefully lay the filter down with the Inlet and Outlet facing upward. With a funnel, or equal, pour beads into the filter through the (top) Outlet Screen Port.
- Step #6:** Install Outlet Screen #1 (on top).
- Step #7:** Tighten both unions on Inlet and Outlet Screens. **DO NOT OVERTIGHTEN UNIONS! HAND TIGHTEN ONLY.**
- Step #8:** Install Check Valve for Air Inlet #5.

- Step #9:** Install Street Elbow #2 and Swing Check Valve #3 with a small piece of PVC pipe (not included). (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.** (See arrow on check valve)
- Step #10:** Install the 3-Way Valve #8 on the bottom Inlet Screen #1 with the handle facing away from the filter. One side of the 3-Way Valve should be plumbed to the circulation pump. The other side of the Valve should be plumbed to the drain / waste line. Be sure to hand tighten the union on the top of the 3-Way Valve before start-up.
- Step #11:** Using a 1/4" npt pipe tap and drill bit, tap the PVC inlet line between the pump and filter. Install the Pressure Gauge (#9).

BBF – XS Operating Instructions



NOTE: A check valve (not included) should be installed between the pump and the filter to prevent the filter from backwashing into the pond due to pump or power failure. It is also equally important that the check valve in Step #9 be installed for the filter backwash properly.

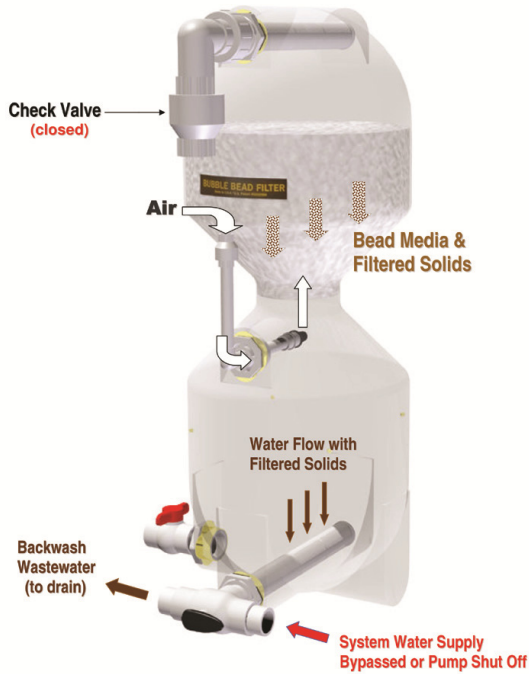
Make sure all valves are set to the correct position. Start the pump. Check for leaks. You will hear some chattering from the beads as the filter fills. Once full, the noise will stop. If there are no leaks and the water output is normal, your Bubble Bead Filter is operating properly. You should check 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), 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 – XS 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 180 degrees so that the valve to the drain line is in the open position. You will hear the air inlet 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 180 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 on the outlet line, 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,

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 #: BBF-XS-
Date Purchased: _____
Purchased From: _____

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
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BEAD FILTER SOLUTIONS

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Aquaculture Systems Technologies is proud to distribute the following products to compliment your aquaculture, water garden or pond filtration system.



Aqua Logic Inc. offers a complete line of heaters, chillers, thermostats and controllers for your aquaculture needs.



Dr. Tim's Aquatics offers a complete array of Nitrifying bacteria, water detoxifiers, clarifiers and cleaners as well as products for nitrate and phosphate control in your pond, aquarium, or aquatic system.



Emperor Aquatics, Inc. designs, manufactures and distributes UV and filter equipment for aquaculture, water purification, water treatment, fish farming, and aquatic life support applications.



Multi-Duti Manufacturing offers a complete line of water pumps for your aquaculture and water garden needs including Sequence, Sequel, Genesys and Advance pumps.



PerformancePro Pumps specializes in making non-metallic centrifugal pumps that are energy efficient, reliable, and corrosion resistant for your pond or water garden.