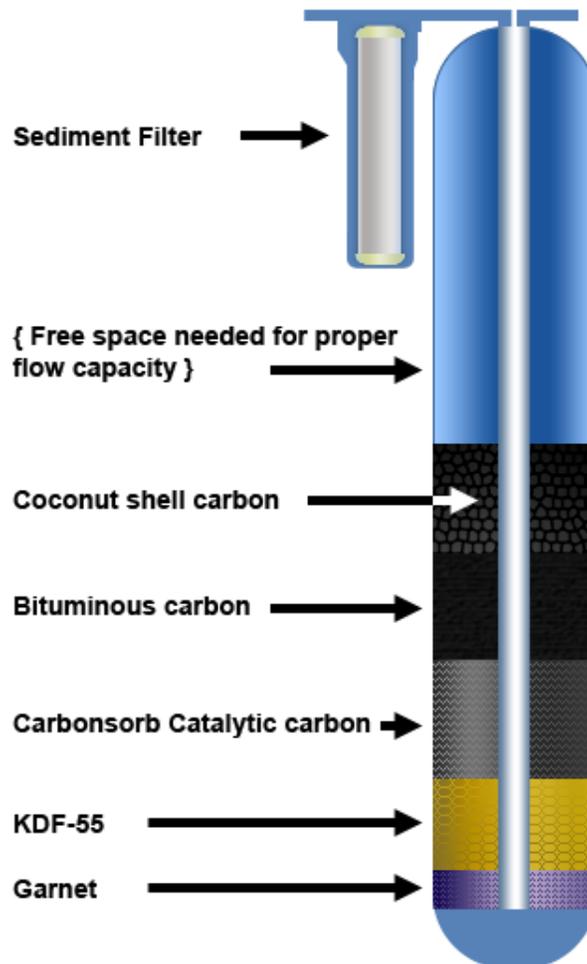




# PURHOME X-1000 WHOLE HOUSE Water FILTER SYSTEM Installation Procedures

Installation Video Available at

<http://www.youtube.com/watch?v=ADa4nVFh2q8>



**High Capacity, Whole House Water Filtration System**

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## Section 1: Introduction

The PurHome X-1000 High-Flow, High Capacity system provides crystal clear, odor-free water while preserving healthy minerals like Calcium. Unfiltered water first passes through a 5 micron, washable pre filter that removes particulate matter (a human hair is about 100 - 200 microns), then through a Garnet gravel bed. In the second stage the water passes through NSF Certified KDF® media, which consists of a combination of two dissimilar alloys that remove >99% of any chlorine and filter heavy metals like lead, mercury, copper, nickel, chromium, and other dissolved metals. KDF® media also provides a bacteria static environment and extends the life of the carbon stage by as much as 300%.

**Note:** Activated carbon is recommended by the Water Quality Association (WQA) for superior water treatment. But carbon can also be a breeding ground for bacteria over time. KDF® inhibits bacteria growth and prolongs the life of carbon.

The 4th, 5th, and 6th stages provide a multi-layer of carbon filtration, all of which are NSF Certified to provide a wide array of filtration, including chlorine, chlorine by-products like THMs and HAA5s, chloramines, organic contaminants (VOCs) including pesticides, herbicides, Benzene, and more.

This product is not intended for use with water that is microbiologically unsafe or of unknown quality, without an adequate disinfection system before or after the unit. Contact us about UV light or chlorine disinfection systems if this is a concern.

The installed system **must adhere to local and state plumbing codes.**

Save installation instructions for future reference.

## Section 2: Precautions

**Read all instructions before initiating installation procedures to assure all needed parts are on hand.**

- Install on cold water lines only.
- Protect unit from freezing.
- Install unit only in systems where line pressure does NOT exceed 60 psi. Pressure regulators can be purchased locally.
- Water in private systems must be free of iron and sulfur contaminants.
- Use Teflon tape for thread sealing. Do NOT use pipe dope.
- Use only warm, soapy water to clean outside of main tank and sediment filter housing. Do NOT use chemical or abrasive cleaners, which may damage filter housing.
- Install in upright position and not in direct sunlight.
- When installing loose media, it is advisable to wear a mask.

## Section 3: System Unpacking

**When unpacking a delivered system:**

1. If damage is apparent, report damages to shipping carrier.
2. With all system components out of their cartons, inventory the items received. Verify the following:
  - Distributor head w/ diffuser cone (1" ports)
  - Mineral Tank w/ Chrome Cover: 52" H x 12" dia.
  - Riser Tube w/ Bottom Filter Cone
  - Small Blue cap (inserts into riser tube opening)
  - Garnet (salt and pepper color gravel)
  - KDF® (gold media)
  - Bituminous carbon filter material (labeled ACARB-AW1240 or CarbSorb20 )

- Coconut shell carbon filter material (labeled ACTIVATED-1230CS or OLC 1230)
- Catalytic Carbon filter material(CENTAUR or Catalytic)
- By-pass valve
- Mounting bracket w/ screws
- Blue Pre-filter housing: 10" H (w/ O-ring)
- 5 micron filter element, 10" H
- Filter wrench
- Funnel

Some of the following hardware, shipped with X-1000 systems, may not be required for your specific installation and may be retained for future use.



**Figure 1** Bypass

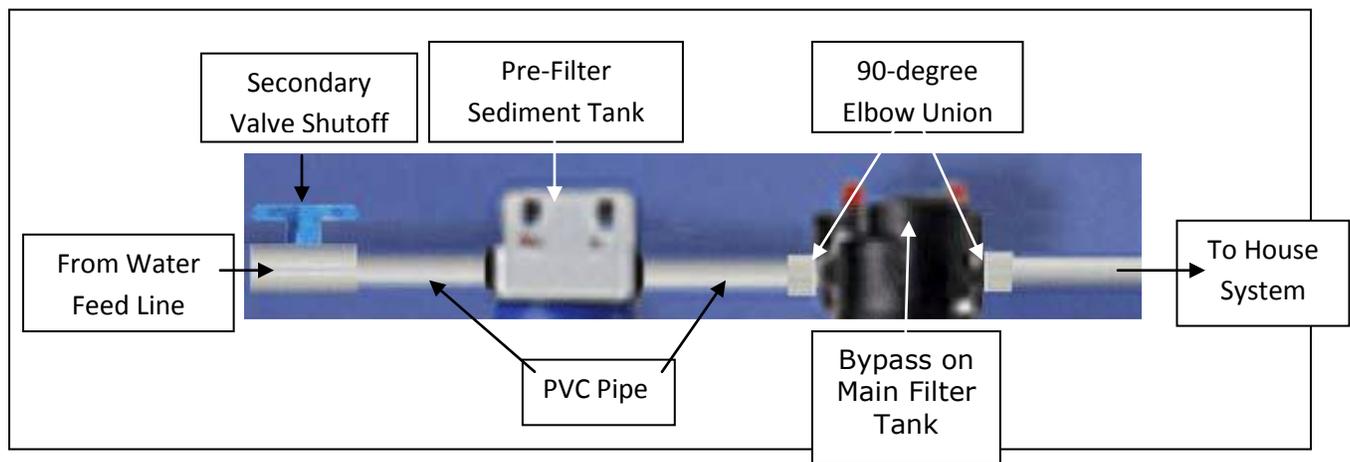
- By-pass Valve for Main Tank Head (see Figure 1)
- 1 Set
  - 2 ea. 1" quick connects
  - 2 ea. 1" brass sweat adapters
  - 2 ea. Plastic split rings & rubber O-rings
- 1 Set
  - 2 ea. 1" quick connects
  - 2 ea. 1" PVC 90° threaded elbow
  - 2 ea. Plastic split rings & rubber O-rings
- 1 set
  - 2 ea. 1" quick connects
  - 2 ea. ¾" brass sweat adapters
  - 2 ea. Plastic split rings & rubber O-rings
- 1 set
  - 2 ea. 1" quick connects
  - 2 ea. ¾" to 1" PVC 90° elbow solvent
  - 2 ea. Plastic split rings & rubber O-rings

3. If any item is missing, contact us at 888-491-4100 before proceeding.

## Section 4: Pre-Planning Considerations

Every installation is unique and has a unique set of conditions, but all water filter systems have a common requirement – periodic tank maintenance. While the house already has an in-house master water shut-off valve, for example, it may not be in a location convenient to the intended location of the filter system. An additional shut-off valve may be desirable.

The bypass valve installed on the head of the Main Filter Tank facilitates servicing the main filter, as well as providing a means to prevent backflow when servicing the sediment pre-filter. Such an arrangement is shown in Figure 2 below, constructed using PVC technology as an example.



**Figure 2** Typical Order of X-1000 Installation

Plumbing parts such as additional valves, piping, couplings, adapters, etc., may be desirable or even required by the plan of the specific installation. Hardware not shipped with the product, however, is subject to local purchase by the customer. Sediment filter and main filter distributor head inlet/outlet provisions are 1" FTP ports. Connection options to copper pipe include 1" MPT to sweat (be sure to keep heat away from plastic distributor caps), and 1" MPT to compression.

**Pre-planning helps assure that you have all components on hand necessary to complete installation.**

## Section 5: Main Tank Assembly Procedure

To prevent damage during shipment, the main tank filter material is shipped separately from the tank. A funnel is provided for use in filling the tank with the several types of filter media at time of installation. Use the following procedure:

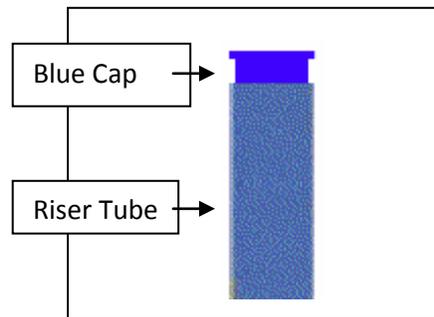
1. Place main tank on firm flat surface in vertical orientation (open end up), and secure to prevent tipping.



**Figure 3** Blue Cap

2. Insert blue cap (supplied), see Figure 3, partially into top end of riser tube as depicted in Figure 4.

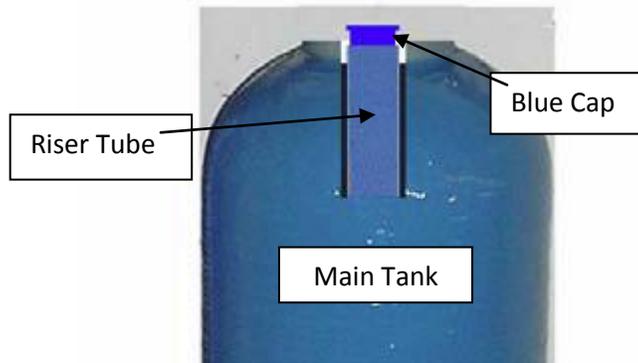
**Note:** Do not force cap fully into tube. The cap functions only to prevent filter material from entering tube when tank is being filled, and must be removed when filling process is complete. If cap has been forced into tube it can be difficult to remove, which may result in tube becoming dislodged from bottom of tank. **If cap is unavailable, affix tape across riser tube opening.**



**Figure 4** Blue Cap in Riser Tube

3. Insert tube into tank so that riser tube diffuser cone is centered at bottom of tank.

**Note:** When properly positioned, top of riser tube is centered in tank opening just below top of thread line in tank.

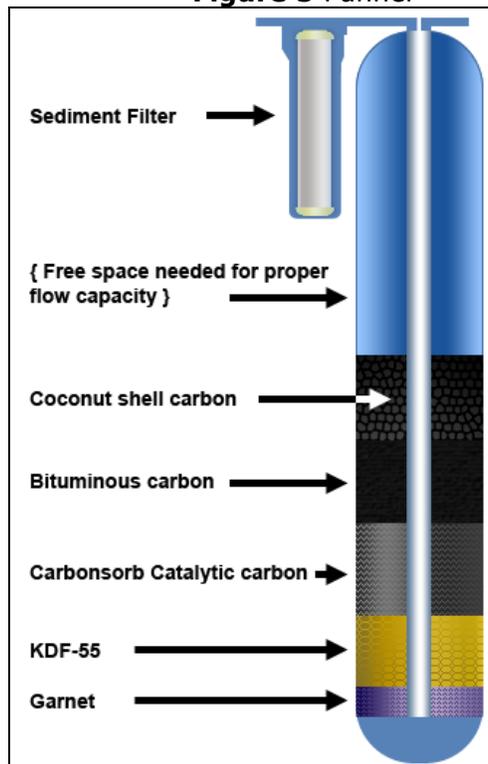


**Figure 4** Main Tank w/ Cutout Showing Riser Tube

2. Position funnel (see Figure 5) in tank opening.



**Figure 5** Funnel



**Figure 6** Filter Media

Refer to **Figure 6** for illustration of results of steps 5 - 16.

5. Pour Garnet (salt and pepper color gravel) into tank.

**Note:** The garnet covers the bottom diffuser cone.

6. Gently rock main tank back and forth slightly to level media in tank, and assure riser tube is still centered in top of tank.

7. Pour all KDF® media (gold material) into tank.

8. Repeat step 6 and then continue to step 9.

9. Pour all catalytic carbon filter (labeled CENTAUR) material into tank.

10. Repeat step 6 and then continue to step 11.

11. Pour all bituminous carbon (labeled ACARB-AW1240 or Carbsorb 20) filter material into tank.

12. Repeat step 6 and then continue to step 13.

13. Pour all coconut shell carbon filter (labeled ACTIVATED or ACARB 12310CS or OLC) material into tank.

14. Repeat step 6 and then continue to step 15.

15. Remove funnel and blue cap from riser tube, taking care to NOT pull up on riser tube, and safely store funnel and cap for future tank maintenance.

**IMPORTANT: Now fill the tank with water using a garden hose. Let the media soak for at least 4 hours.**

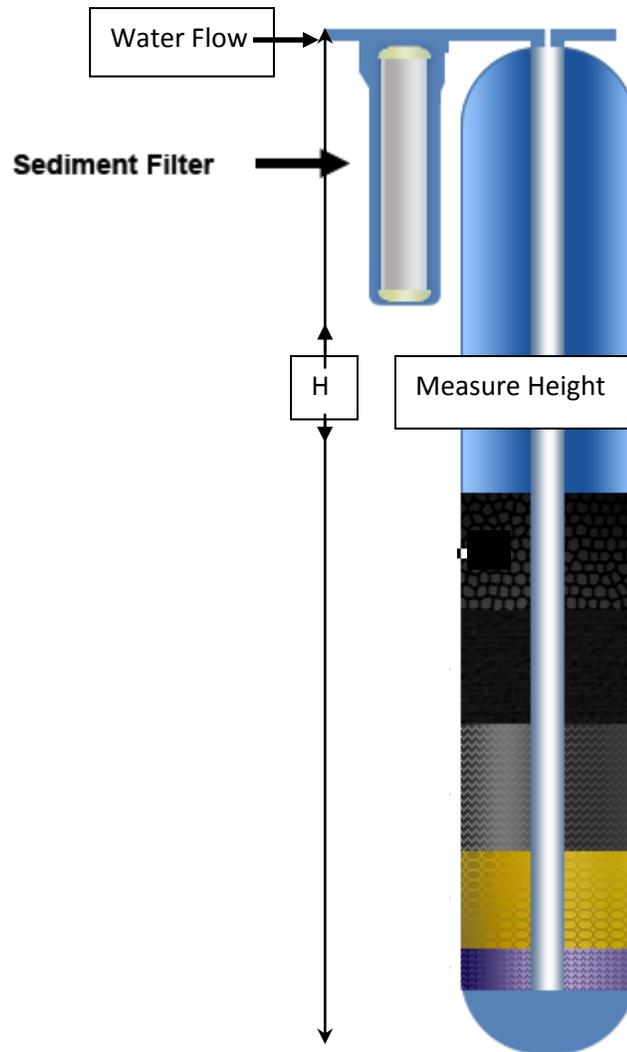
16. Assure diffuser cone (see Figure 7 below) is secured on bottom of distributor head, and position distributor head on tank so riser tube inserts into cone. Screw head securely into tank.

**Note:** Be sure the riser tube fits tightly inside the diffuser cone port. **Hand tighten only**, to avoid possible damage to distributor head.



**Figure 7** Diffuser Cone

17. Measure height of tank, from bottom of tank to center of port marked "UPFLOW INLET" on tank distributor head. Record measurement as height (H). See Figure 8 below.



**Figure 8** Typical X-1000 Installation

The following installation procedure assumes an installation similar to that shown in Figure 8. The same arrangement of components is applicable to copper, however, using copper/PVC adapters at the inlet port of the Sediment Pre-filter and outlet port of the Main Tank. Assure filter housings and main tank are installed in only a vertical orientation and NOT in direct sunlight.

1. Close house main water shut-off valve.
2. Close cold water input valve to hot water tank.
3. Open any nearby cold water faucet to relieve line pressure.
4. Cut cold water pipe on house side of water meter in metered system, or on house side of shut-off valve in private system.

Note: Remove sufficient piping from water line, consistent with system planning, to permit insertion of X-1000 system.

5. Extend water supply piping, if necessary, from point at which water source line was cut to inlet side of location in which system is to be installed.

Note: Maintain slope of  $\frac{1}{4}$  in/ft on pipe extensions (or IAW local plumbing code, if different), and end pipe extension horizontally at height recorded in step 17 of Section 5.

5.1 Install adapter on end of water source line, to facilitate connection to 1" PVC pipe of water softening/conditioning system (if applicable)

5.2 Connect secondary shut-off valve (supplied) to adapter, using 1" x 4" section of PVC (local purchase).

See Figure 2.

Note: The installation of a secondary shut-off valve in close proximity to the pre-filter facilitates future servicing of the system components.

6. Wrap 2 or 3 layers of teflon tape onto threads of 1" x 6" PVC cement-to-thread adapter (local purchase), and screw adapter into inlet port of pre-filter distributor head.

Caution: Hand-tighten only. Use of pipe wrench or other such tool can damage pipe and/or plastic distributor head if pipe is over-tightened.

7. Install other end of 1" x 6" PVC cement-to-thread adapter from pre-filter distributor head into either water line adapter or secondary shut-off valve installed in step 5, as appropriate. Assure final orientation of distributor head permits filter housing to hang vertically when installed.

8. Wrap 2 or 3 layers of teflon tape onto threads of one end of 1" x 6" PVC threaded pipe (local purchase), and screw pipe into outlet port of pre-filter distributor head.

Caution: Hand-tighten only. Use of pipe wrench or other such tool can damage pipe and/or plastic distributor head if pipe is over-tightened.

9. Secure pre-filter mounting bracket onto wall at height measured in step 17 of Section 5 (H in Figure 8 on page 5), and secure distributor head in mounting bracket.

10. Wrap 2 or 3 layers of teflon tape onto threads of other end of 1" x 6" PVC threaded pipe (local purchase), and securely screw 1' threaded coupling (local purchase) onto pipe.

11. Install split ring, o-ring, and black quick connect on 90° threaded elbow (supplied) in accordance with directions (supplied) to prepare for installation.

12. Wrap 2 or 3 layers of teflon tape onto threads of prepared 90° threaded elbow, and screw elbow into coupling.

Note: Assure orientation of elbow is appropriate at height (H) to permit bypass valve to bridge connection between elbow and port marked “UPFLOW INLET” on main tank when tank is installed.

13. Align bypass valve with main tank inlet ports, and press valve onto ports. Hand tighten both black quick connects to secure valve on tank head. See Figure 9 below.



**Figure 9** Bypass Valve Installed on Tank Head

14. Assure valves set for bypass operation. See Figure 10 below.



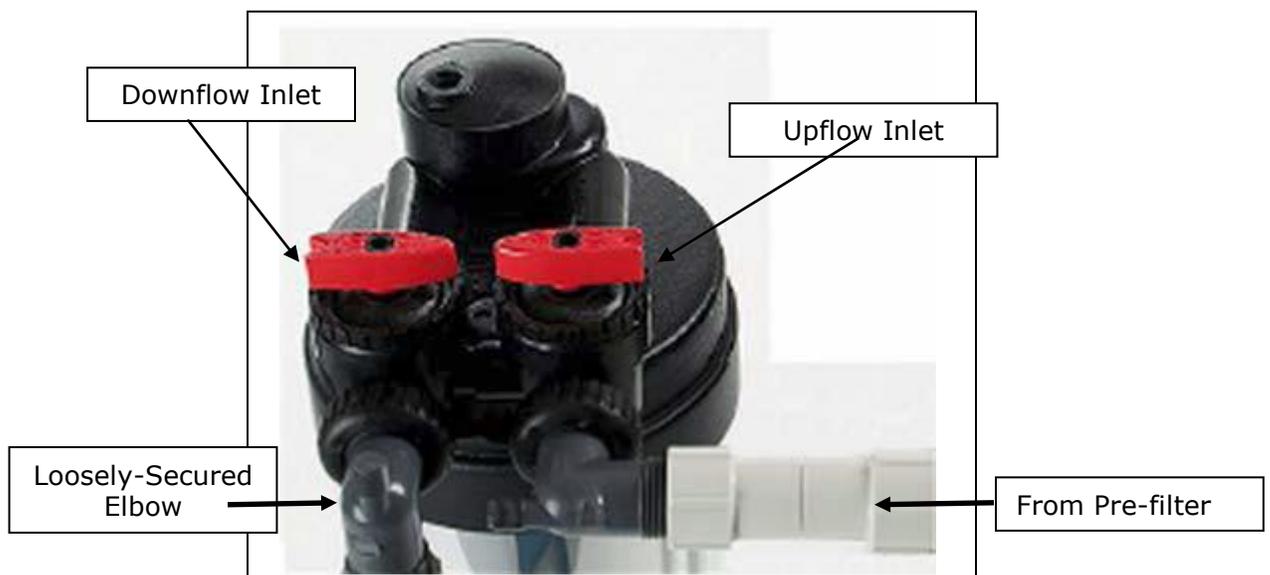
**Figure 10** Valves Set For Bypass

15. Using split ring, o-ring and black quick connect, press 90° elbow (supplied) into “DOWNFLOW INLET” port of bypass valve, and partially tighten black quick connect to loosely secure elbow in valve port. See Figure 11 below.

16. Locate tank so that tank is flat on floor and port on “UPFLOW INLET” side of bypass valve aligns with 90° elbow connected to pipe from pre-filter.

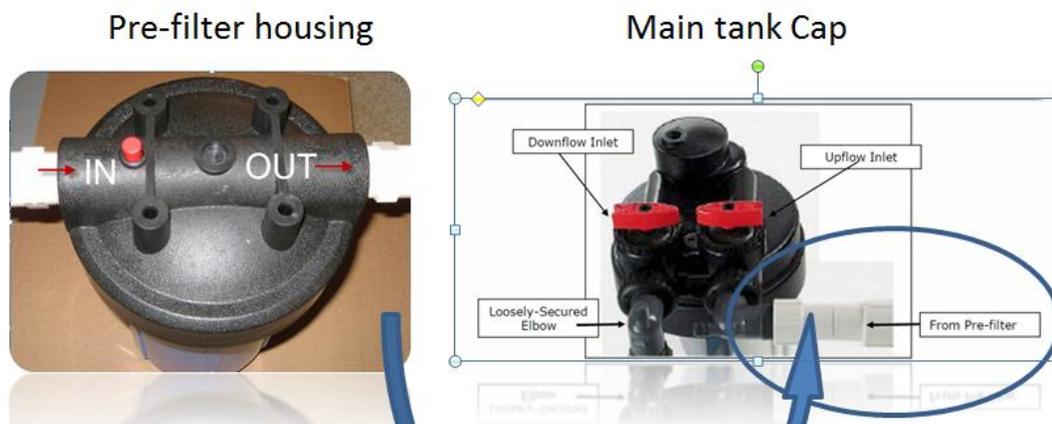
**Note:** Proper filtering action requires that water from pre-filter flows into port marked “UPFLOW INLET” on distributor head, as shown in Figure 11 on page 8.

17. Mate elbow on pipe from pre-filter into valve, and tighten black quick connect to secure in place. See Figure 11.



**Figure 11** Bypass Valve w/ 90° Elbows  
(view from back of tank)

## Connection should be “Out to Upflow”



18. Wrap 2 or 3 layers of teflon tape onto threads of 90° threaded elbow loosely connected to “DOWNFLOW INLET” port on bypass valve.
19. Securely screw 1” threaded coupling (local purchase) onto 90° threaded elbow.
20. Wrap 2 or 3 layers of teflon tape onto threads of one end of 1” x 6” PVC thread-to-cement adapter, and securely screw adapter into 1” threaded coupling.
21. Extend water supply piping from house water pipe to outlet side of location in which X-1000 system is to be installed. End pipe extension horizontally at height recorded in step 17 of Section 5 (H in Figure 8) and separated ≈6” from center of “DOWNFLOW INLET” port of main tank.

22. Install adapter on end of house water pipe, to facilitate connection to 1" x 6" PVC thread-to-cement adapter.
23. Connect 1" x 6" PVC thread-to-cement adapter from 1" threaded coupling on 90° threaded elbow to house water system adapter to close system.
24. Insert pleated filter element (supplied) into sediment filter housing, and securely screw housing into distributor head.

**Note:** Hand-tighten only. The housing is equipped with an o-ring that forms a seal with the distributor head.

25. Turn bypass valves to water flow-through setting. Refer to Figure 12 below.



**Figure 12** Valves Set for Flow Through Tank

## Section 6: System Function Test

1. With secondary shutoff and backflow valves open, if installed, and all faucets and other water outlets in the house closed, open master house water shut-off valve to pressurize system.
2. Verify no water leaks from filter system installation as well as from any newly installed associated plumbing.
3. After verifying filter system and associated plumbing are water tight, thoroughly flush main filter tank as follows:
  - 3.1 **Slowly** open cold water faucet nearest to filter outlet (such as an **outdoor faucet** or cold water faucet in **utility sink**) and run cold water only, until water runs clear (20-30 mins).

**Note:** It is necessary to “slowly” open the one faucet to prevent a sudden onrush of water in the Main Tank, which might force carbon filter material into distributor head and clog the head. The flush water is initially blackish in color as a result of carbon dust. This is normal and completely harmless. Also, if house water pipes emptied when water line was cut, on first purge it may be necessary to open all cold water faucets until water runs clear, to purge water lines throughout the house system.

3.2 Close all faucets in house.

3.3 Shut water off for at least 15 minutes.

3.4 Repeat step 3.1 one more time.

**Note:** It should NOT be necessary to open all other cold water faucets on second purge.

A "cloudy" appearance to the water may be noticeable after the system has been flushed. The cloudiness is actually tiny air bubbles being purged from the carbon. This is normal, harmless, and clears up within a day or two.

3.5 Verify successful flushing of system.

3.6 Open cold water feed valve to hot water tank.

#### 4. *You May Wish to Test for Presence of Chlorine:*

**Note:** Requires local purchase of home chlorine test kit.

4.1 Fill cup with water and dip test strip into cup.

4.2 Swish gently in water for 10 seconds.

4.3 Observe No change in color of test strip.

**Note:** The pad toward the end turns blue with the presence of free chlorine; the pad near the handle turns green with the presence of total chlorine (or chloramine).

**IMPORTANT!** Immediately assess color after ten seconds. The pads become unstable, resulting in a false reading.

## Section 7: Warranty

**Tank:** 10 year warranty.

**Distributor heads, riser tube and sediment filter housing:** 5 year warranty.

**Media:** Media: KDF® media is guaranteed for at least 10 years or 1,000,000 gallons, or we'll replace it, with a pro-rated warranty of 1/120 for each month short of 10 years. Puriteam assumes no responsibility for use of X-1000 Systems on private water sources that have not been equipped with Puriteam Iron and Sulfur Pretreatment systems since date of original install.

**Sediment filter element:** No warranty.

**This warranty does not cover damage resulting from abuse, neglect, freezing, fire or other fortuitous event. No allowance is made for the consequential damage, labor or expense incurred as a result of a proven defect in system components not supplied by Company nor in installation workmanship.**

## Section 8: Maintenance

### 8.1 Sediment/Pre-Filter Replacement

Replacement is recommended when necessary as determined by visual inspection (typically every 6-9 months). The sediment filter is washable, follow instructions below and then hose off to clean. Replace when filter can no longer be successfully cleaned. Source water that has high particulate content requires more frequent change-out of the filter element. When the cartridge has noticeably darkened and/or the water pressure has dropped, replace the sediment filter element.

1. Close main water shutoff and open near-by faucet to relieve line pressure.
2. Turn only one of two valves on bypass on main tank to the bypass position (90°).

**Note:** Turning only one of the two valves on the bypass effectively prevents backflow from house water when pre-filter housing is unscrewed.

3. Place bucket under filter housing.
4. Press red button on top of filter to assure all pressure has been released.
5. Slide filter wrench up filter housing on sediment filter, and unscrew housing in counter-clockwise direction of rotation.
6. Remove old filter element from housing, and empty water from housing into bucket. Remember the sediment filter is washable several times before needing replacement.

**Note:** While housing is off, lubricate O-ring with silicon grease or vegetable oil. Reorder part number FM-BB-10-5.

7. If replacing filter element, continue to step 8. Otherwise, thoroughly clean existing pleated filter in running water, and then continue to step 8.
8. Insert new filter element or cleaned existing filter element into housing and securely re-install housing into distributor head.

Note: Make sure filter element is positioned in lower and upper dowels, and hand-tighten housing to prevent possible damage to housing or distributor head as a result of over-tightening.

9. Close faucet opened in step 1, and open backflow shutoff valve (if installed) or return valve on bypass to flow-through position.

10. Open main water shut-off valve, and verify no water leaks from pre-filter.

## 8.2 Main Tank Filter-Media Replacement

The main filter is designed to remove chlorine and other contaminants from approximately 1,000,000 gallons of water (about ten years), and has a ten-year prorated warranty of effectiveness on municipally treated water. Replace media every ten years, or sooner if necessary. Under certain water conditions, for example, the KDF<sup>®</sup> can solidify (harden) which requires replacement of the tank. Also, water treatment in some municipal systems may cause the filter media to lose its effectiveness in less than ten years, as indicated by the presence of chlorine taste and odor in the water. The homeowner may also test for the presence of chlorine with easy-to-do home test strips. (Refer to procedure in Section 7, step 4).

### Two replacement methods are available:

- Media Refill Kit
- Replacement Tank w/riser tube

### Media Refill Kit

1. Turn both valves on bypass on main tank head to bypass position. Refer to Figure 10 on page 7.
2. Turn black quick connects on tank side of bypass to free tank distributor head from bypass, and remove tank from system.

3. Unscrew distributor head from top of filter tank.

**Note:** Riser tube may lift out with cap. If so, slide riser tube out of cone to separate tube from cap and leave tube in tank.

4. Use a Shop Vac to extract as much water as possible; pour remaining water and media contents of tank into bucket.

**Note:** Recycle or dispose of filter media according to local regulations.

5. Remove riser tube from tank and rinse any remaining filter media from tube cone and from tank.

**Note:** While tank is separated from distributor head, dry o-ring and then lubricate o-ring (silicone grease, or vegetable oil).

6. Refer to Section 5 starting on page 3 for procedure to use in refilling tank.

7. Locate tank flat on floor by bypass valve and press ports on distributor head into bypass valve.

8. Tighten black quick disconnects to secure tank into system.
9. Return valves on bypass to flow-through position. Refer to Figure 12.
10. Verify proper functioning of system. Refer to procedures in Section 7 to reactivate system.

## Replacement Tank

If you prefer to change out the tank, simply order a new tank to replace the old one.

1. Turn both valves on bypass on main tank head to bypass position. Refer to Figure 10 on page 7.
2. Turn black quick connects on tank side of bypass to free tank distributor head from bypass, and remove tank from system.
3. Unscrew distributor head from top of filter tank.

**Note:** Riser tube may lift out with cap. If so, slide riser tube out of cone to separate tube from cap and leave tube in tank.

4. Pour contents of tank into bucket.

**Note:** Recycle filter media in accordance with local regulations.

5. Recycle or dispose of old tank in accordance with local regulations.
6. Use procedure from Section 5 starting on page 3 to prepare replacement tank for installation.
7. Locate tank upright and flat on floor by bypass valve, and press ports on distributor head into bypass valve.
8. Tighten black quick disconnects on tank side of bypass valve to secure tank into system.
9. Return valves on bypass to flow-through position. Refer to Figure 12.
10. Verify proper functioning of system. Refer to procedures in Section 7 to reactivate system.

**Sediment filter:** Reorder part number **FM-BB-10-5** from PuriTeam

## Section 9: Contacting Us

Toll Free 1-888-491-4100  
 (M-F, 9am-7pm EST, excluding major holidays)  
 Local: 610-268-5420  
 Fax: 1-888-759-8905  
 24-Hour Ordering: 1-888-491-4100  
**By email:** [info@puriteam.com](mailto:info@puriteam.com)

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 The Water Team Inc.  
 873 E. Baltimore Pike, Suite 351  
 Kennett Square, PA 19348