



## KING WATER FILTRATION MUNICIPAL SERIES SAFETY PRECAUTIONS

**Read all instructions, specifications, cautions and warnings before installation and using your water filter system. Learn the specific details regarding installation and use. Failure to follow them could cause serious property damage.**

**Installation errors can cause property damage. All equipment needs to be plumbed into the water system by a licensed plumber.**

These guidelines must be followed during system installation:

- **System is designed to be used on potable municipal water supplies.**
- **Do not use the hot water line.**
- **The system is for indoor use only.**
- **Turn the cold water line off while installing the system.**
- **A large Rubber O-ring provides a watertight seal between the Valve Head and nylon tank head ring (The white nylon collar between the valve head and the tank). Make sure the O-ring is properly seated by ensuring the valve head is HAND TIGHT onto the tank (Use common sense as to not use delicate plastic fittings for leverage during hand tightening as these can break). It is important to check proper torque as sometimes the valve heads can loosen during shipping.**
- **When installation is complete, re-check the system to ensure there are no leaks or drips and perform a manual backwash.**
- **The outlet must be within reach of the power cord. Do not use an extension cord. Extension cords that are too long or too light do not deliver sufficient voltage to the unit and could present a safety hazard.**
- **Do not cross-thread fittings or housings. If cross-threaded, place the unit out of service.**

# ATTENTION

**PLEASE PAY ATTENTION TO INSTALLATION INSTRUCTIONS TO MINIMIZE CARBON DUSTING**

**To Minimize Carbon Dusting and Pressure Loss in Your Plumbing and Fixtures:**

1. Verify that the system is properly sized prior to installation. Pressure loss and decreased service life can result from systems that are undersized.
2. Pre-soak the filter by filling with water for at least 24 hours.
3. After water treatment system is installed, run kitchen faucet on warm for 30 minutes to flush filtration system.
4. In the rare event you have excessive sediment or carbon dusting coming from your faucets, a post-sediment filter may be required.

## WARNING

**Do not use water that is microbiologically unsafe or of unknown origins without adequate disinfection methods. To be used for the treatment of potable water only. Well water applications require a water analysis be performed by an authorized testing facility.**

**If using a pacemaker, please keep at least 5 feet away from the water filtration system.**

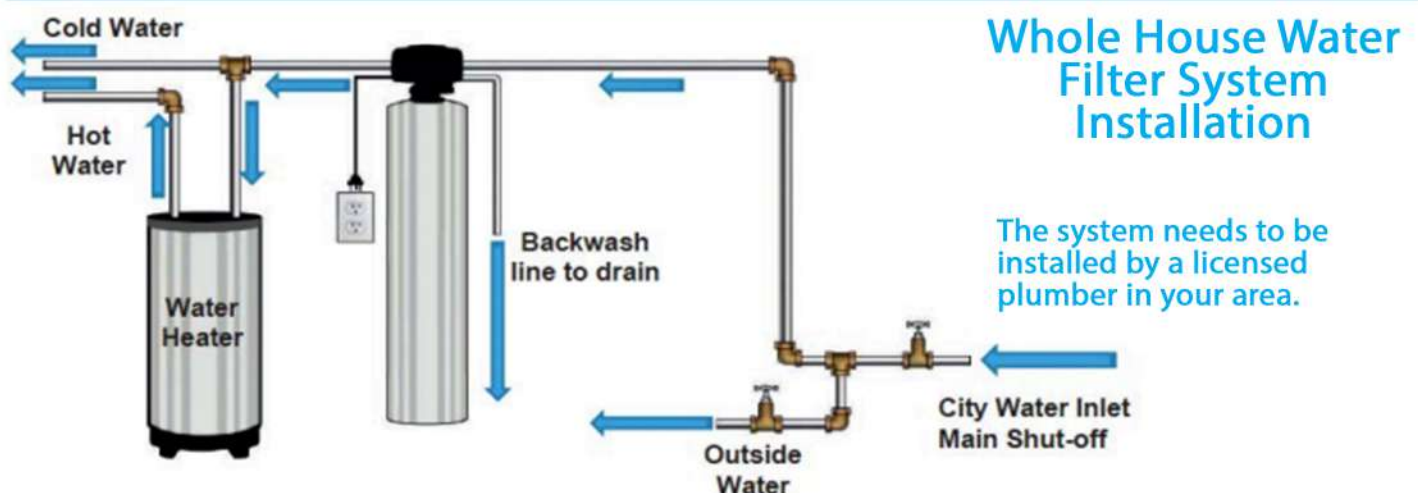
**This product may contain a substance known to the state of California to cause cancer, birth defects or other reproductive harm (CA Prop 65).**



## KING WATER FILTRATION MUNICIPAL SERIES SYSTEM LOCATION

- Do not locate the system where the environment would offer any risk of water contamination.
- Do not put any liquid other than water into the system.
- All water systems should be installed **AFTER the pressure, storage and/or contact tanks.**
- Position the water filter near the main water supply line, drain and electrical outlet.
- Position so that main water supply shutoff valve is between water filter and main water source.
- Turn off the water flow to the house while installing system.
- Ensure that the tank itself is vertical and plumb. If it appears that the tank is leaning and not perfectly perpendicular to the ground, adjust the black base on the tank until the tank is plumb. The easiest way to do this is to lift the tank and tap the base on a firm surface. The black base fits tightly on the bottom of the tank but it is not glued – it is only a friction fit and designed to be adjustable. **Please note that the tank must be installed in a vertical position, it cannot be placed on its side!**
- Install the water filter by positioning it BEFORE the water heater.
- Water temperatures above 100°F (38°C) will damage the water filter. Use on cold water line only.
- Allow sufficient space around the installation area for easy servicing.
- Provide a non-switched 110/120V, 60Hz power source for the control valve (automatic system).

## TYPICAL SYSTEM INSTALLATION







## KING WATER FILTRATION MUNICIPAL SERIES

# CONNECTING TO WATER SUPPLY

### INSTRUCTIONS:

#### STEP 1: Turn off the Water & Electric Water Heaters

**FAILURE TO FOLLOW THIS PROCEDURE COULD RESULT IN SERIOUS, PERMANENT DAMAGE TO THE HEATING ELEMENTS IN YOUR WATER HEATER.**

- If you have a conventional electric water heater or an on-demand (tankless) electric water heater, we highly recommend that you turn off the power to the heater while installing any water treatment equipment. Turn off power to your water heater now.
- Turn off the household main water shutoff valve. Open several plumbing fixtures inside the home as well as the outside faucets to drain as much water out of the plumbing system as possible.
- Following completion of the entire installation, restore the water flow by turning on the household main water valve and allow all air to be purged from the plumbing system before turning the power back on to your water heater.

#### STEP 2: Prepare and Install Inlet and Outlet Plumbing Connections

**• TEFLON® TAPE IS THE ONLY SEALANT TO BE USED ON THE CONNECTOR YOKES AND DRAIN FITTINGS. IF YOU WISH TO USE COPPER PIPING FOR YOUR INSTALLATION AND WILL BE SOLDERING THE JOINTS, DO NOT APPLY HEAT NEAR YOUR CONTROL VALVE, BYPASS ASSEMBLY, CONNECTOR YOKES, OR THE DRAIN FITTINGS; OTHERWISE SERIOUS DAMAGE TO THESE PARTS COULD OCCUR. ALWAYS SOLDER JOINTS WITH THESE COMPONENTS DETACHED. IF YOU ARE USING COPPER ADAPTERS TO CONNECT TO THE CONNECTOR YOKES, IT IS RECOMMENDED THAT YOU SOLDER A 6" PIECE OF COPPER PIPE INTO EACH OF THE CONNECTION ADAPTERS AWAY FROM THE VALVE, THEN LET THEM COOL OFF BEFORE THREADING THEM ONTO THE CONNECTORS.**

### MINIMUM REQUIRED MATERIALS

- 1" or 1.25" male thread adapters to plumb the system
- Wrenches, either open end or adjustable jaw, sized to fit compression adapters
- Pipe cutter
- Thread seal tape
- Sandpaper or emery cloth
- Before installing 1" or 1.25" fittings to the inlet and outlet of the bypass valve or manifold, wrap the threads 3 times around with thread seal tape. Install 1" or 1.25" fittings.
- Soldering is no longer required to plumb with copper pipe. Instead, use 1" or 1.25" compression fittings. Connect plumbing as shown below (Fig 10), choosing appropriate connection for mechanical/ automatic control valve.

**CAUTION:** Do not overtighten or cross-thread.

**CAUTION:** Install water filter in direction of arrows.

### KEY CONTROL VALVE COMPONENTS

1. Control Valve Body
2. Bypass Valve
3. Connector Yokes
4. Drain Line Flow Control (DLFC)
5. Valve Cover
6. DLFC Retention Clip





# CONNECTING TO WATER SUPPLY

## (CONTINUED)

The system's control valve is connected to your incoming and outgoing water lines by way of a bypass assembly with threaded fittings. This assembly is composed of the bypass valve and two connector yokes.

Locate the inlet and outlet ports on the back of the control valve. Note that the inlet and outlet are marked with arrows indicating the correct direction of water flow. When you are looking at the back of the control valve, the inlet is on the left and the outlet is on the right. Check the corresponding markings on the bypass to ensure the correct direction of water flow and attach the bypass valve to the control valve. The in and out arrows on the bypass should be pointing the same direction as the in and out arrows on the outside of the control valve.

**BE VERY CAREFUL TO MAKE SURE YOU PLUMB THE SYSTEM IN THE RIGHT DIRECTION.**

### STEP 3:

The bypass assembly is secured to the control valve using threaded fittings. Thread sealant tape should not be used on these threads. The seal is made by way of o-rings. To attach the bypass to the control valve, simply thread the 2 nuts on the bypass onto the valve until the nuts bottom out on the valve body. Do not over tighten - it is normal for some "play" to exist when the bypass assembly is properly seated. This allows for minor misalignment of the piping connections and relieves stress on the valve. The connector yokes are connected to the bypass in the same manner (they are normally shipped to you pre-connected to the bypass, but you can separate them to make the plumbing to your main water lines easier if you want).

You will need to purchase the appropriate threaded fittings to connect the connector yokes to the material and size of your main inlet and outlet water lines. Plumb your main incoming and outgoing water lines using suitable pipe, fittings, elbows, etc. as necessary to create a tidy, secure installation up to the back of the bypass valve (including the correct connection adapters to mate with the threaded fittings on the bypass assembly's connection yokes.) Be sure to follow all local plumbing codes.

**WE HIGHLY RECOMMEND THAT YOU REMOVE THE BYPASS ASSEMBLY FROM THE CONTROL VALVE BEFORE MAKING THESE FINAL CONNECTIONS AS YOU MAY INADVERTENTLY APPLY TOO MUCH PRESSURE ON THE VALVE WHILE SECURING THE ADAPTERS, CAUSING DAMAGE TO THE VALVE BODY.**

### STEP 4: Drain Line Installation

**NOTE: NEVER CONNECT THE DRAIN LINE DIRECTLY INTO A DRAIN. ALLOW AN AIR-GAP OF A MINIMUM OF 1 INCH (CHECK LOCAL CODES) BETWEEN THE DRAIN LINE AND WASTE LINE TO PREVENT THE POSSIBILITY OF BACK-SIPHONING. ALWAYS FOLLOW LOCAL CODES. THE DRAIN LINE SHOULD NOT BE EXPOSED TO FREEZING TEMPERATURES.**

During the regeneration cycle, your King Water Filtration™ system will send water and contaminants out the drain port. This port needs to be connected to a suitable household drain, ideally within 20 feet of your media tank. A nearby floor drain, sump pump, or a standpipe for a washing machine is





## KING WATER FILTRATION MUNICIPAL SERIES

# CONNECTING TO WATER SUPPLY

### (CONTINUED)

an excellent option. We recommend that the drain line be connected to a minimum 1.5" drain standpipe or floor drain located ideally below the top of the head of your water filter. Locate the drain port on the back of your control valve. The drain line flow control assembly (DLFC) is pre-attached to the control valve - it has black plastic housing with 3/4 inch female NPT threads.

You will need to purchase suitable pipe or tubing for the drain line. The minimum drain line diameter is 1/2" for lengths under 20 feet. A 3/4" is required for lengths over 20 feet. Drain line runs over 50 feet are not recommended. Polyethylene tubing, PEX, PVC, CPVC, and copper pipes are all acceptable material choices for the drain line. If you are using flexible tubing, be sure that there are no "kinks" or "crimps" in the tubing after installation that may cause a flow restriction. If used, overhead drain lines are not to exceed a height of 5 feet above the control valve and should be not more than 50 feet in length. Should an overhead drain line be utilized, it is recommended that the drain line diameter be not less than 3/4", and that it not be fastened flush to the bottom of a floor joist to minimize noise transfer to the upstairs of the building during regeneration.

Using an appropriate fitting, connect the drain line flow control to your drain line tubing/pipe. The DLFC can be removed from the control valve to facilitate easier plumbing if desired. To remove the drain line flow control, pull on the retaining clip to remove it and then grasp the drain line flow control and pull upward. You may wish to dry-fit the fitting first to make sure you line up the drain line properly with the drain port on the control valve if you are using a rigid pipe.

Re-insert the DLFC into the control valve and securely lock into place with the retaining clip when done.

Ensure that the drain line is thoroughly secured along its route to the drain. The drain line will be under pressure when the backwash cycle is working. If not adequately secured, the drain line could vibrate during backwash causing excessive noise. If this is experienced, use additional fixtures to better secure the drain line.



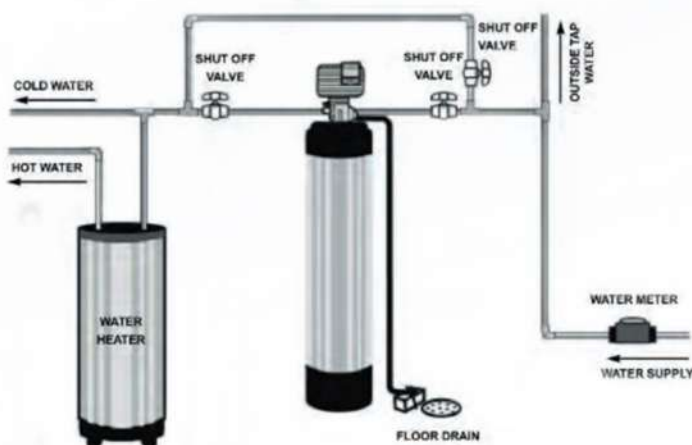
## KING WATER FILTRATION MUNICIPAL SERIES

# TIPS TO AVOID ACCIDENTAL PROPERTY DAMAGE

King Water Filtration™ Whole Home Filtration and Conditioning Systems use the latest technologies available to ensure and prevent water rupture. However, if manufacturing guidelines are not followed, water damage can occur. Causes of flooding include excessive water pressure, spikes in water pressure, human tampering, and improper installation. To eliminate possible water and property damage, use the following preventative steps and devices:

- A licensed plumber **MUST** install this unit, reading and following the Installation and Operation Guide as well as all notices. Failure to do so will void the warranty.
- Install a water pressure regulator/control valve inline to keep the water in low pressure at 70 psi or less.
- Keep the water supply line from the extreme heat or freezing. Temperature at unit location should be maintained between 35° F and 120°F.
- Install an inline flood prevention valve/leak control – instructions below.
- In addition to having all other safety devices, use a ball valve to bypass the inflow of water to the system during vacation.

## INSTALLING A LEAK DETECTOR VALVE



Leak Controllers are specialized water alarm and shut-off systems that use sensors to detect a water leak. The sensor sounds an alarm and then shuts off your water. The alarm continues to sound until the valve is manually reset. By preventing continuous water flow, mold and property damage are restricted.

### Features

- 1" full port ball valve with auto shut-off
- Programmable service reminder indicator
- 4 AA alkaline batteries
- Automatic daily valve management
- Available port sizes (inlet/outlet) 3/4", 1", 1.25" and 1.5".

1. Install leak detector valve into an inlet water line.
2. Move sensor as close to filter as possible. Upon sensing moisture, controller will engage the shutoff valve and sound an alarm.
3. Secure controller module to the wall.





## KING WATER FILTRATION MUNICIPAL SERIES AUTOMATIC CONTROL VALVE PROGRAMMING (MUNICIPAL)



### 1. Recycle Button:

- Use this to toggle through programming steps.
- Hold down for manual backwash (BW)

### 2. Down Arrow

- Used to set time
- Press and hold down until clock moves
- When in programming more, use to toggle through setting options

### 3. Up Arrow

- Used to set time
- Press and hold down until clock moves
- When in programming mode, use this to toggle through setting options.

The code in the upper left shows the portion of the program being changed.

The up and down buttons change the value on the right.

**Step 1:** Press and hold one of the up or down arrows until the clock moves. Set the time to 12:01 PM. Push the Recycle button to set.



**Step 2:** Press and hold the up and down buttons at the same time to get into the Master Programming Mode. A pencil icon lets you know you are in programming mode.



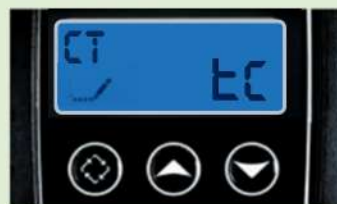
**Step 3:** Screen upper left reads DF. Set to GAL.



**Step 4:** Push Recycle. Set RF to FLtr.



**Step 5:** Push Recycle. Set CT to tc.



**Step 6:** Push Recycle. Set DO to 7



**Step 7:** Push Recycle. Set RT to 2:00 AM.



**Step 8:** Push Recycle. Set BW to 10



**Step 9:** Push Recycle. Set RR to 6.



**Step 10:** Push Recycle. Upper left hand reads RE Set it to OFF.



**Step 11:** Push Recycle. Upper left hand reads TD set to current time. Push and hold Recycle button for 6 seconds to complete first BW.

