

**MANUFACTURING  
NUMBERS:**

9700800  
9700801  
9700810  
9700811

# ***vizion***™

by A.J. Antunes & Co.

## **TOTAL ASSURANCE PACKAGE**

### **TAP-42x Series**

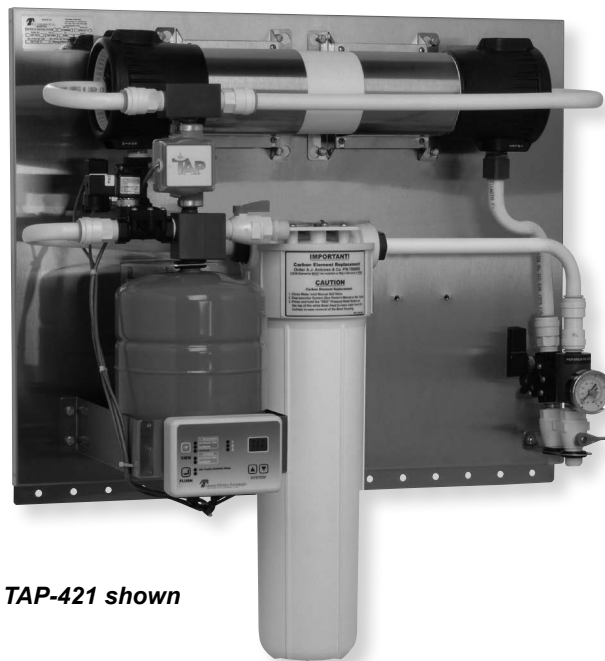


Cartridge Tested and Certified by NSF International against NSF/ANSI Standard 42 and 53 for the reduction of:

Standard No. 42: Aesthetic Effects  
Nominal Particulate Reduction Class I  
Standard No. 53: Health Effects  
Cyst Reduction  
Turbidity Reduction.



P/N 1010976 Rev. G 03/12



**TAP-421 shown**

# **Owner's Manual**

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**OWNER INFORMATION**

**General**

The TAP Series is an innovative filtration system that proprietary multi-bore hollow fiber membranes as well as carbon element to provide the latest innovation in filtration technology.

This manual provides the safety, installation and operating procedures for the TAP-Series water filtration systems. We recommend that all information contained in this manual be read prior to installing and operating the system. Your TAP-Series system is manufactured from the finest materials available and is assembled to our strict quality standards. This system has been tested at the factory to ensure dependable trouble-free operation.

**Warranty Information**

Please read the full text of the Limited Warranty in this manual.

If the system arrives damaged, contact the carrier immediately and file a damage claim with them. Save all packing materials when filing a claim. Freight damage claims are the responsibility of the purchaser and are not covered under warranty.

The warranty does NOT extend to:

- Damages caused in shipment or damage as result of improper use.
- Installation of electrical service.
- Normal maintenance as outlined in this manual.
- Malfunction resulting from improper maintenance.
- Damage from moisture leaking into electrical components.
- Damage from tampering with, removal of, or changing any preset control or safety device.

**IMPORTANT! Keep these instructions for future reference. If the system changes ownership, be sure this manual accompanies the equipment.**

**OWNER INFORMATION (continued)**

**Service/Technical Assistance**

If you experience any problems with the installation or operation of your system, contact A.J. Antunes & Co. at **1-630-784-1000**, or toll free in the United States at **1-800-253-2991**.

Fill in the information in the next column and have it handy when calling for assistance. The serial number is on the specification plate located on the system.

Purchased From: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Model No.: \_\_\_\_\_

Serial No.: \_\_\_\_\_

Mfg. No.: \_\_\_\_\_

**IMPORTANT**

**A.J. Antunes and Company reserves the right to change specifications and product design without notice. Such revisions do NOT entitle the buyer to corresponding changes, improvements, additions or replacements for previously purchased equipment.**

**IMPORTANT SAFETY INFORMATION**

In addition to the warnings and cautions in this manual, use the following guidelines to safely operate the system:

- Read all instructions before using equipment.
- Install or locate the equipment only for its intended use as described in this manual.
- Do NOT use corrosive chemicals in this equipment.
- Do NOT operate this equipment if it has a damaged cord or plug; if it is not working properly, or if it has been damaged or dropped.
- This equipment should be serviced by qualified personnel only. Contact A.J. Antunes & Co. for repair.
- Do NOT immerse cord or plug in water.
- Keep cord away from heated surfaces.
- This equipment should be supplied with only cold water.
- For installations in Massachusetts, the Commonwealth of Massachusetts Plumbing Code 248 CMR shall be adhered to. The use of saddle valves are not permitted. Please consult your local plumber.

The following warnings and cautions appear throughout this manual and should be carefully observed.

- Unplug the power cord before performing any service or maintenance on the unit.
- All electrical connections must be in accordance with local electrical codes and any other applicable codes.

- **WARNING ELECTRICAL SHOCK HAZARD. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.**
  - Do NOT modify the power supply cord plug. If it does not fit the outlet, have a proper outlet installed by a qualified electrician.
  - Do NOT use an extension cord with this unit.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or a similarly qualified person.
- This equipment is to be installed to comply with the local plumbing code and any other applicable code.
- Water pressure must not exceed 100 psig (690 kPa). To reduce water pressure, install a water pressure regulator and set to suit the application.
- The trans membrane pressure (inlet pressure minus the permeate water pressure) must not exceed 45 psi (310 kPa).
- A ground fault circuit interrupter (GFCI) must be installed on the circuit to this system.
- When installed on metallic plumbing, a properly sized electrical bonding jumper must be installed across the inlet and outlet pipes serving this unit.

## IMPORTANT SAFETY INFORMATION (continued)

### Protect from becoming dry

If the membrane dries out, irreversible damage to the Ultra Filter membrane may result. Protect the filter from becoming dry by keeping it wet and sealed at all times.

### Protect from freezing

If the Ultra Filter membrane freezes during operation or storage, irreversible damage to the membrane and brittle cracking of the cartridge or housing may result.

### Protect from direct sunlight or other UV sources

Avoid long-term exposure to direct sunlight or other UV sources. The Ultra Filter should be stored in a dark location.

### Protect from high temperatures or abrupt variation in temperature

The maximum operating temperature is 104°F (40°C). Avoid abrupt variations in temperature. Any temperature variation should be made slowly.

### Protect from rough handling or dropping

Mechanical damage, external breakage, and/or internal breakage of the filter can result if the system is dropped or bumped. Handle with care at all times during transportation and installation.

### Protect from organic solvents and concentrated acids

Prevent any and all contact of the membrane with strong solvents, solvents containing chlorine, or concentrated acids. Do NOT use strong solvents or concentrated acids on any plastic parts of the filter system. Examples of some solvents to avoid: acetone, methyl acetate (nail polish remover); hexane (spot removers); turpentine, toluene (paint thinners); dry cleaning solutions, insecticides.

### Protect from abrasive material

The membranes must be protected from abrasive materials like shavings left in a pipe. Abrasive materials in contact with the membrane can cause irreversible damage to the membrane. All pipes must be flushed clean before installing the filter. All plastic parts of the filter system must be protected from sharp objects like knives, sand paper, or other tools. Cutting or nicking a plastic part can weaken it and cause a leak. Do NOT use abrasive cleansers on any plastic parts.

### Protect from water hammer

The system must be protected from shock, pressure surges, or pulsation that may occur inside water pipes. Water hammer occurs in pipes when a valve or faucet shuts quickly. Install a water hammer arrestor (pressure vessel containing compressed air separated from the water by a diaphragm) to reduce pressure shock.

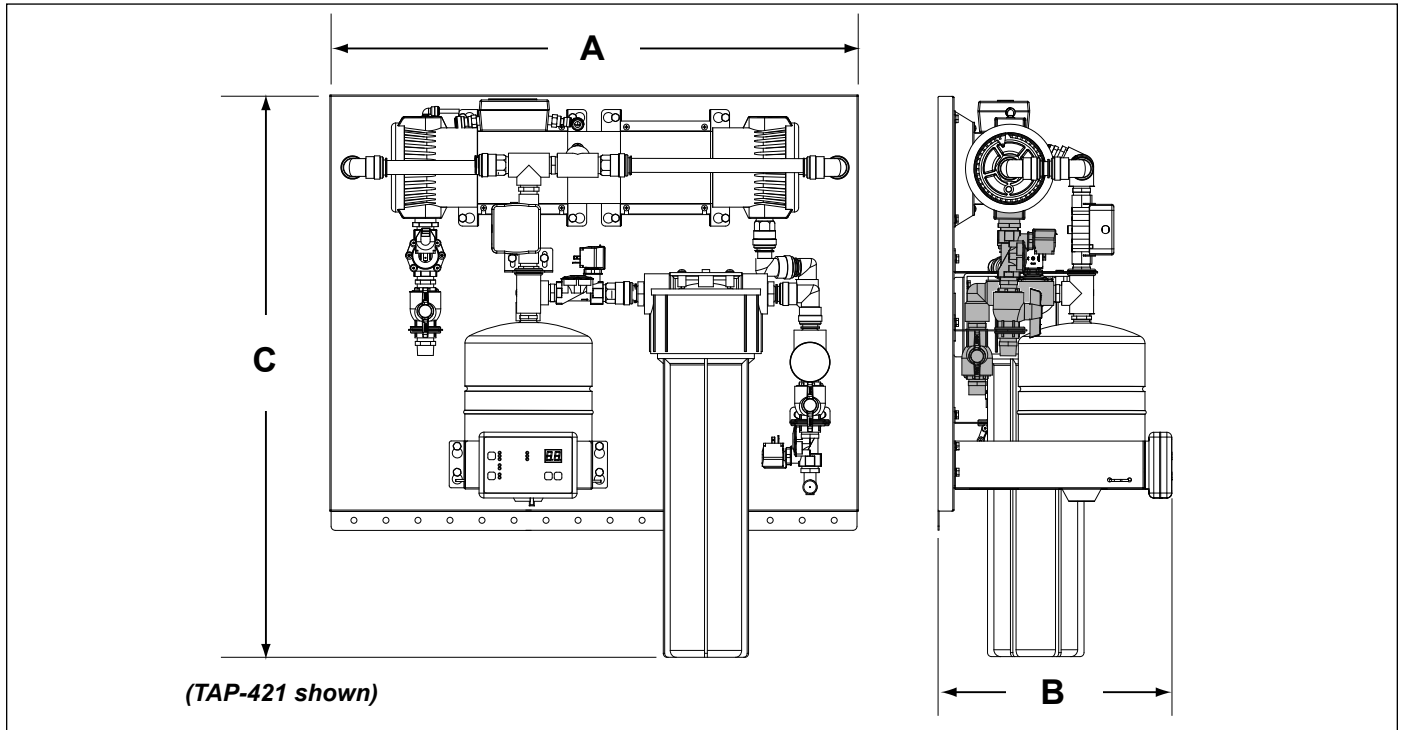


**This equipment is to be installed to comply with the basic plumbing code of the Building Officials and Code Administrators, Inc. (BOCA) and the Food Service Sanitation Manual of the Food and Drug Administration (FDA).**



**Water Flow Regulator Assemblies are NOT interchangeable. Operating the system with the wrong Water Flow Regulator or without a regulator can damage the system, cause personal injury, and voids the warranty!**

**SPECIFICATIONS**



**Dimensions**

Model & Mfg. No.	Width (A)	Depth (B)	Height (C)
TAP-420 9700800 9700801	33" (84 cm)	13" (33 cm)	28" (71 cm)
TAP-421 9700810 9700811	33" (84 cm)	13" (33 cm)	36" (91 cm)

**Operating Weights**

Model & Mfg. No.	Operating Weight
TAP-420 9700800 9700801	50 lbs. (23 kg)
TAP-421 9700810 9700811	70 lbs. (32 kg)

**Replacement Cartridges**

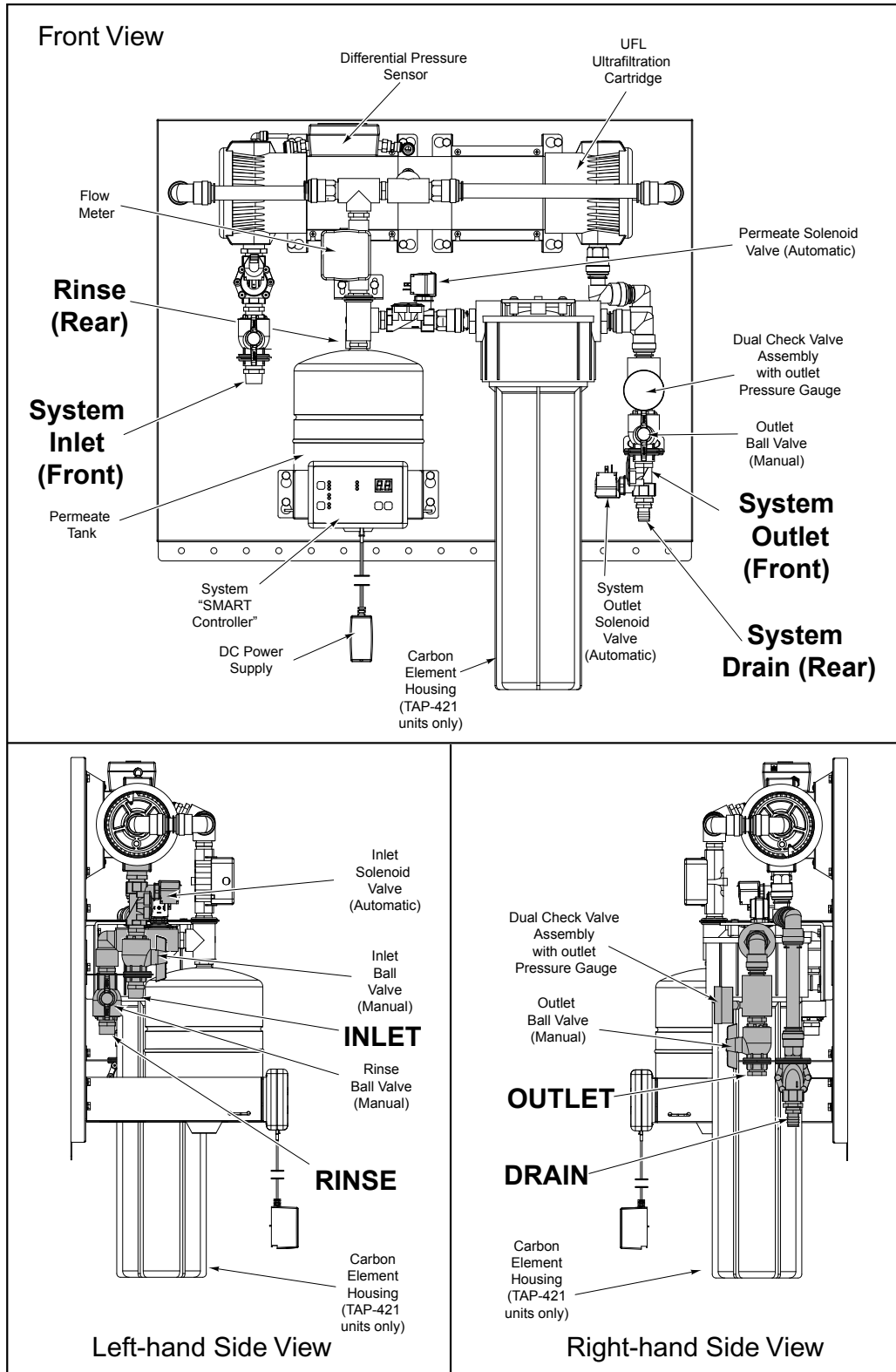
Replacement		Part Number
TAP-420	Ultra Filter L-420	7000411
TAP-421	Single pack Carbon	7000669

**Electrical Cord & Plug Configurations**

Kit Model Number	Description	Configuration
0012146	DC Power Supply 100 - 240 VAC Includes the 4 plug adaptors below	 <small>NOTE: PLUG STYLE MAY VARY</small>
	US NEMA 1-15 (2 pin) or NEMA 5-15 (3 Pin)	
	Euro CEE 7/16	
	AS/NZS 3112 AUS (2 Pin)	
	UK BS 1363	

**⚠ CAUTION ⚠**  
All electrical connections must be in accordance with local electrical codes and any other applicable codes.

**SPECIFICATIONS (continued)**



**Figure 1. System Components**

**PERFORMANCE DATA SHEET**

**Filter Cartridge Capacities**

Maximum Operating Pressure	100 psig (690 kPa)
Maximum Operating Temp.	104°F (40°C)
Minimum Operating Temp.	40° F (4° C)
pH Range	3-10
MWCO	100 kD



Cartridge Tested and Certified by NSF International against NSF/ANSI Standard 42 and 53 for the reduction of:

Standard No. 42: Aesthetic Effects  
Nominal Particulate Reduction Class I  
Standard No. 53: Health Effects  
Cyst Reduction  
Turbidity Reduction

**System Capacities**

Model Mfg. No.	Gal./Liters Per Min. (max)	Carbon Element Capacity	UF Length	Number of Carbons
TAP-420 9700800 9700801	7.9 gal. (30 liters)	0	20 in. (51 cm)	0
TAP-421 9700810 9700811		60,000 gal. (227,000 liters)		1

Cartridge has been tested according to NSF/ANSI Standard 42 and 53 for reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI 42 or 53. While testing was performed under standard laboratory conditions, actual performance may vary.

**Performance Claims for Percent Reduction**

Substance	Influent Challenge Concentration	Reduction Requirement
cyst <sup>1</sup>	minimum 50,000/L	99.95%
Turbidity	11+/1 NTU	≤ 0.5 NTU
Particulate Class I Particles 0.5 to < 1µm	at least 10,000 particles /mL	85%

<sup>1</sup>based on the use of microspheres or *Cryptosporium parvum* oocysts

**NOTE: The NSF Information provided above applies to the TAP System's Ultra-Filter Cartridge.**

**WATER CONDITION EQUIPMENT GUIDELINES**

The following table describes the required or recommended equipment to be used with your filtration system based on the Inlet Water Pressure and Inlet Turbidity.

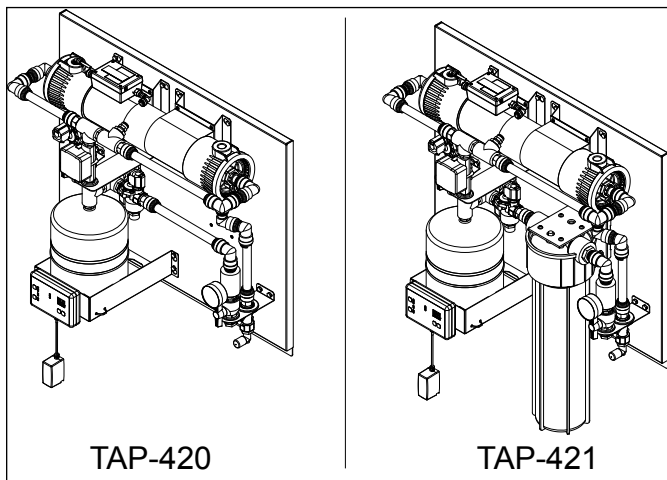
If your Inlet Turbidity (NTU) is...	Then the Additional Equipment required or recommended is...
Less than 1 NTU	<i>Required:</i> No additional equipment. <i>Recommended:</i> Inlet Water Strainer (180 micron/80 mesh screen)
Greater than 1 NTU	<i>Required:</i> Inlet Water Strainer (180 micron/80 mesh screen)

## INSTALLATION

### Unpacking

1. Open the large box. It should contain:
  - A. Plate mounted TAP-42x Series system with UFL cartridge installed (Figure 2).
  - B. One 20-foot coil of flexible hose.
  - C. Accessory Box.
  
2. Open the Accessories box. It should contain:
  - A. Padded Envelope containing:
    - Smart Controller
    - Power Adaptor
    - Adaptor Plugs
    - Owner's Manual
    - Quick Reference Card
    - Cable Tie
  - B. Carbon Element (TAP-421 units only).
  - C. Carbon Element Housing (TAP-421 units only).
  - D. Mounting Bracket.
  
3. Remove all packing materials and protective coverings from the system.
  
4. Remove the information packet. To prevent any delay in obtaining warranty coverage, fill out and mail the warranty card.

**NOTE: If any parts are damaged, contact A.J. Antunes & Co. IMMEDIATELY at 1-800-253-2991 (toll free in the U.S. and Canada) or 1-630-784-1000.**



**Figure 2. TAP-420 and TAP-421 Systems**

### Equipment Setup

#### GENERAL

When placing the system into service, pay attention to the following guidelines:

- Do NOT immerse cord or plug in water.
- Keep cord away from heated surfaces.

#### ELECTRICAL

The line voltage must match the voltage on the specification label. The plug on the power cord must match the appropriate outlet. Do NOT connect the system to a switched electrical outlet.

#### PLUMBING

**NOTE: The system must be connected to the COLD water line. Do not connect the system to the hot water line.**

The TAP System uses the following connections (Figure 1):

<b>System Inlet</b>	Male 3/4" NPT
<b>System Outlet (Product Water)</b>	Male 3/4" NPT
<b>Drain</b>	3/4" I.D. Hose Barb
<b>Rinse Outlet</b>	3/4" GHT (Garden Hose)

When making a plumbing connection to the system, use a back-up wrench on the supporting plumbing. Always use a quality, approved pipe sealant or thread seal tape on pipe threads. Do not allow pipe sealant inside pipes.

Do NOT over tighten the connections. Use plastic fittings when connecting to the plastic connections of the system.

If soldered plumbing is used, do NOT apply heat to, or near, the filtration system. Use union (O-ring seal) connections for ease of installation and future servicing.

#### SUGGESTED TOOLS AND SUPPLIES FOR INSTALLATION

The following tools and supplies are suggested to make the installation easier:

- Screwdriver
- Drill with Bits
- Tape Measure
- Two Gallon Bucket
- Pipe Wrenches
- Adjustable Wrenches
- Level
- Pipe dope or thread seal tape
- Fresh 5-1/4% liquid chlorine bleach
- Garden Hose, 3/4"



**INSTALLATION (continued)**

**INLET WATER PLUMBING**

If desired, a "T" or Cross Fitting with cap or plug can be installed between the Inlet Valve and the System Inlet. This fitting can be used for draining and sanitizing the system and downstream plumbing.

The plumbing leading to the system must be flushed clear of all debris before connecting to the system inlet. Hold a bucket at the inlet water line and slowly open the inlet water valve. Allow the pipe to flush until all debris is removed.

**DRAIN LINE PLUMBING**

The drain line flushes particle buildup out of the system during self cleaning and must be able to support the flow rate when the system flushes.

The flow rate from the flush depends on the inlet water pressure, inlet pipe size, and system selected. The drain opening should be as large or larger than the inlet plumbing line.

The drain line leading out of the system should be as short as possible, sloping downward without kinks or loops. Be sure the drain used is not blocked or restricted.

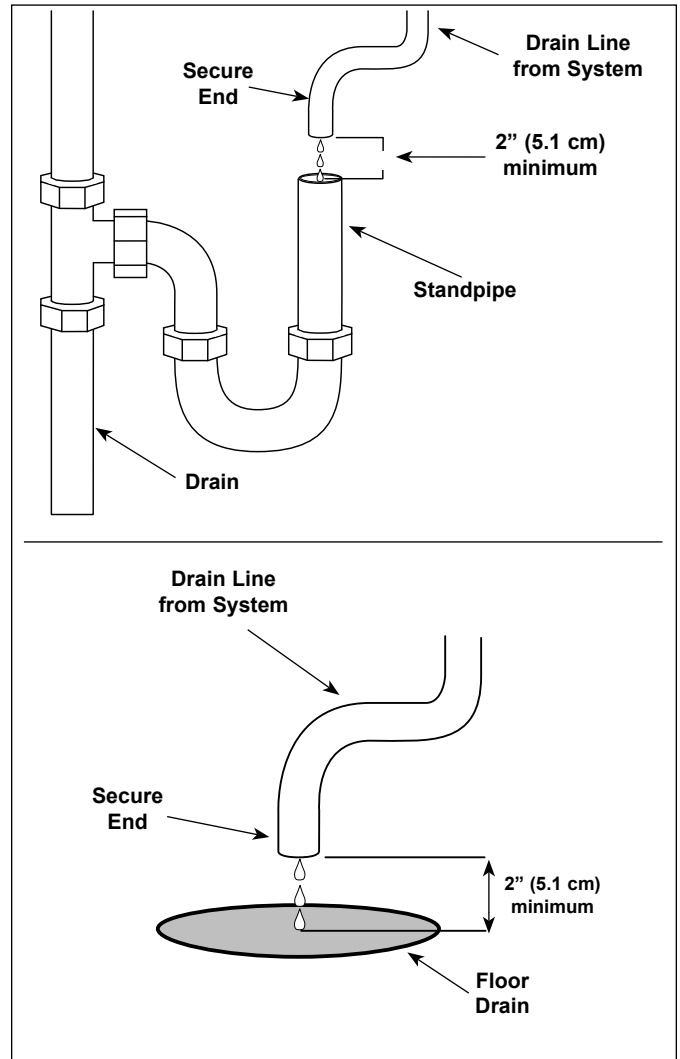
Protect the system from possible back contamination by installing an air gap between the drain connection of the system and the drain (Figure 3). This gap in the line, with no physical contact between the system and drain, prevents contamination of the system in the event of a backed-up drain.

**NOTE: Make sure the end of the drain line is positioned and secured at least 2 inches above the drain so that the water flow is directed into the drain without splashing.**

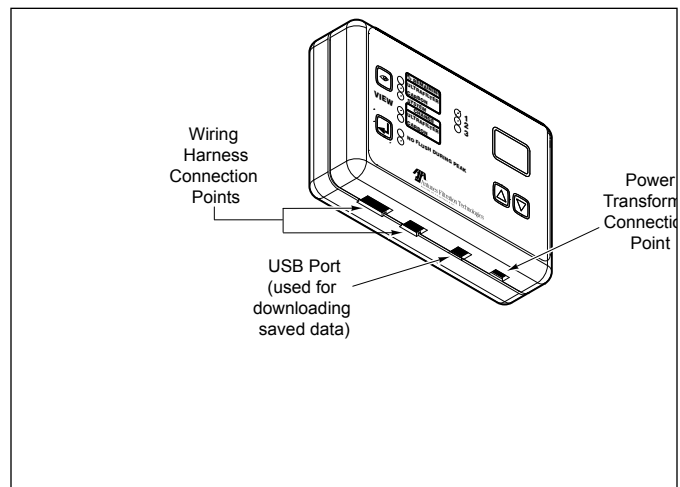
**ATTACH THE SMART CONTROLLER AND WIRING HARNESSES**

1. Using the provided Velcro® fastener, connect the Smart Controller to the system as shown in Figure 2.
2. Connect the two wiring harness connectors to the appropriate points on the bottom of the Smart Controller (Figure 4).

**NOTE: Do NOT plug the power transformer into the SMART controller at this time. Mount the system to the wall first before attaching the power.**



**Figure 3. Proper Drain Plumbing**



**Figure 4. Smart Controller Inputs**

## INSTALLATION (continued)

### ⚠ CAUTION ⚠

Due to its weight and size, the TAP System **MUST** be mounted with the provided Mounting Bracket. Read the **ENTIRE** section on *Mounting the System* **BEFORE** attempting to mount the TAP System. Use care when lifting heavy objects.

### Mounting the System

**NOTE:** Use caution when lifting and mounting the system. The system **MUST** be mounted using the provided Mounting Bracket.

### ⚠ IMPORTANT ⚠

Allow 20 inches on either the left or right side of the unit for cartridge replacement. For TAP-421 units, allow 3-4 inches below the unit to remove the Carbon Element Housing.

The TAP System comes with a Mounting Bracket (P/N 0505558) to assist in mounting the system securely (Figure 5) Before mounting the system, consider these important points when choosing a mounting location:

- Allow sufficient access for cartridge replacement. The system should be mounted with 20 inches on either the left or right side of the unit to allow proper access when changing cartridges.
- The system must be mounted near but ***NOT ABOVE*** an appropriate electrical outlet.
- Mount the system near a drain for flushing operations.
- Mount the system in front of all consumable water filtration processes.
- Mount the system with the provided Mounting Bracket and hardware capable of supporting 70 lbs or more.
- Secure the Mounting Bracket into wall studs or with the appropriate heavy duty mounting hardware.

The system is pre-assembled to a back plate. The back plate has mounting holes across the bottom portion to secure the bottom of the system to the wall. Some of the bottom mounting holes may be obscured. Plan your mounting accordingly.

Follow these steps to secure the Mounting Bracket to the wall and seat the TAP System on the Mounting Bracket:

1. Use a level and a stud finder to attach the Mounting Bracket securely to the wall with the appropriate mounting hardware (Figure 5).
2. The Mounting Bracket is designed so that the TAP System can be lifted and "hung" on the Mounting Bracket. With assistance, lift the TAP System and seat it onto the Mounting Bracket securely (Figure 5).
3. Secure the bottom portion of the TAP System to the wall using the holes provided. Make sure the mounting hardware secures the system into wall studs or use the appropriate mounting hardware (Figure 5).

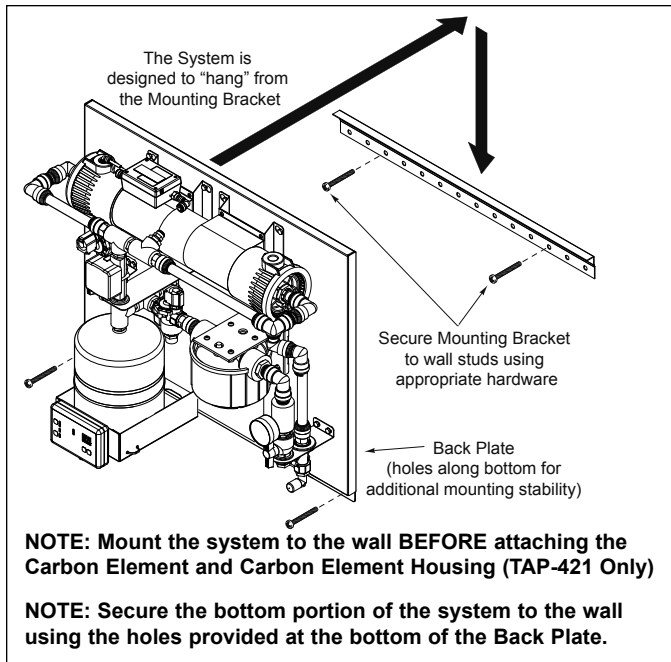


Figure 5. Mounting (TAP-421 Shown)

### INSTALLING CARBON ELEMENT & HOUSING (TAP-421 UNITS ONLY)

1. Insert the Carbon Element into the Carbon Element Housing (Figure 6).
2. Screw the Carbon element Housing into the Carbon Filter Head. Do **NOT** overtighten.

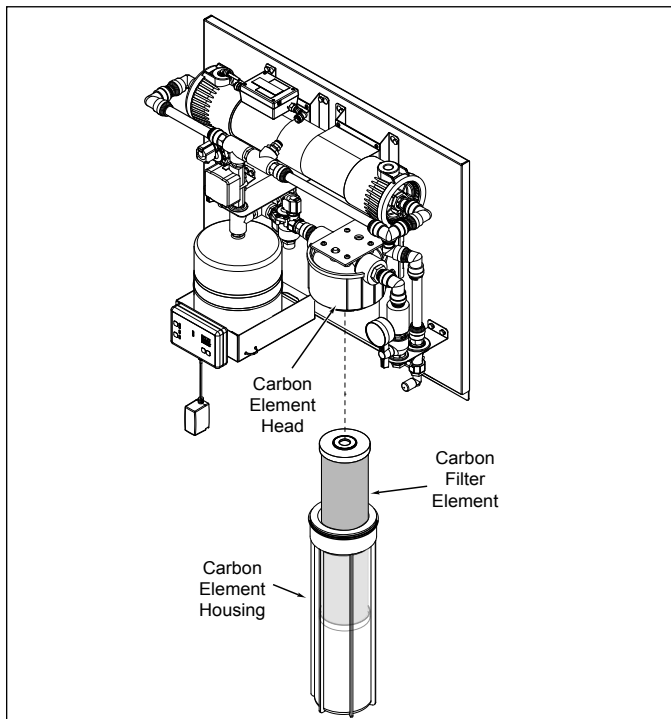


Figure 6. Installing Carbon Element (TAP-421 ONLY)

**INSTALLATION (continued)**

**Drain Hose Connection**

The TAP System is shipped with a coil of braided tubing (20 feet) designed to direct the Drain Valve Solenoid water to the drain. Refer to Figure 7 and follow these steps:

1. If necessary, cut a length of braided tubing so that it reaches the drain from the appropriate valve.
2. Connect one end of the hose to the Drain Valve Solenoid and secure with a provided Worm Clamp.
3. Direct the other end of the hose to the drain.

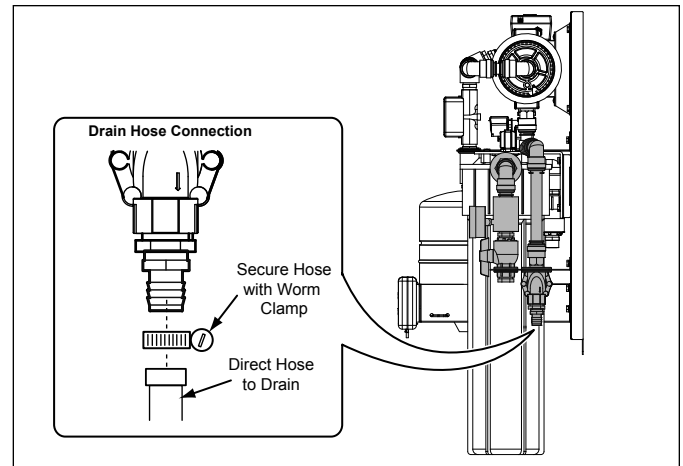
**NOTE: The drain MUST be able to accommodate a flow up to 7.9 gpm. The drain hose MUST have an air gap between the end of the hose and the drain.**

**Rinse Hose Connection**

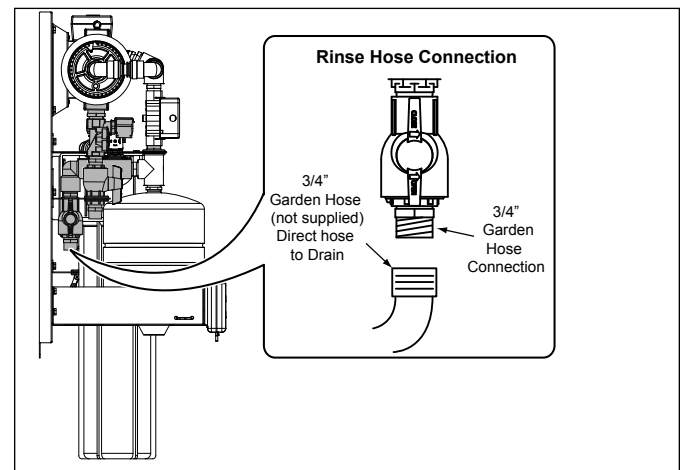
The TAP System has a standard 3/4" garden hose connection at the Rinse Valve (Figure 8).

1. Obtain a length of 3/4" garden hose long enough to reach from the Rinse Valve connection to the drain.
2. Install a gasket in the end of the hose (non-drain end).
3. Connect the hose to the Rinse Valve fitting. Use a back-up wrench on the fitting if required (Figure 8).
4. Direct the other end of the hose to the drain. Secure as necessary (Figure 8).

**NOTE: The drain MUST accommodate a flow of up to 7.9 gpm.**



**Figure 7. Attaching the Drain Hose**



**Figure 8. Attaching the Rinse Hose**

**CAUTION**

**Do NOT use the Rinse Valve connection for consumable water. Because the Carbon Element is after the Rinse Valve, the Rinse Valve water may have an objectionable taste.**

**System Inlet Connection**

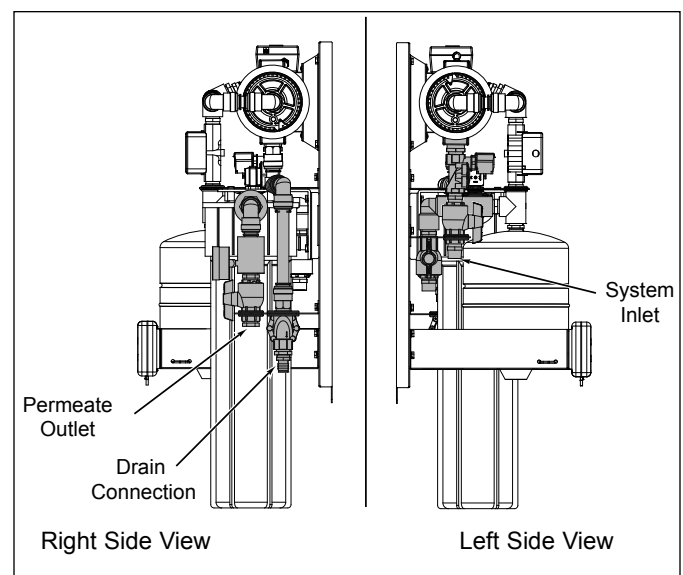
The System Inlet (Figure 9) has a 3/4" NPT male thread at the Inlet Valve. Do NOT overtighten fittings. The plastic ball valve can crack due to over-tightening.

Use plastic fittings and a pipe thread sealant approved for use on PVC fittings when making connections.

**Filtered Water Permeate Outlet Connection**

The system outlet (Figure 9) has a 3/4" NPT male thread at the Outlet Valve. Do NOT overtighten a fittings. The plastic ball valve can crack due to overtightening.

Use plastic fittings and a pipe thread sealant approved for use on PVC fittings when making connections.



**Figure 9. TAP-42X Inlet and Outlet Connections**

## INSTALLATION (continued)

### Starting the Smart Controller

**NOTE:** Make sure that **ALL** ball valves are closed before starting the system.

Follow these steps to power up the system:

1. After the system is mounted, connect the power supply to the bottom right of the Smart Controller (Figure 4).
2. Select the appropriate adaptor for your power outlet and attach the adapter to the transformer.
3. Plug the transformer into the appropriate outlet that has power to it at all times.

**NOTE:** Do **NOT** plug the power transformer into an outlet that will be switched off. Failure to supply power to the system at all times may result in short cartridge life or bad tasting water.

**NOTE:** The system is designed to supply water even with the power off. However, with power off, the system will not flush or monitor any usage.

### SETTING THE INTERNAL CLOCK

After setting the Product Type, the Display flashes "CL" indicating that the Internal Clock must be set before any other action can take place. The unit beeps as a reminder to set this value. To set the clock:

1. Press and hold (in order) the **VIEW**, and **▲** buttons until the red System LED illuminates and "--" appears on the display.
2. Release all buttons.
3. Use the **▲** and **▼** buttons to scroll to **01**.
4. Press the **FLUSH** button. The Clock Set program uses the following format for date and time:  
YY; MM; DD; HH (0-23); MM
5. Use the **▲** and **▼** buttons to set the local date and time.

**NOTE:** The system uses military time. If the local time is 3:45 PM on July 2, 2008, the clock would be set as 08; 07; 02; 15; 45.

### Rinsing the Ultra Filter Cartridge

The Ultra Filter Cartridge is pre-installed with the TAP System before shipment. This cartridge **must** be rinsed before placing the system into operation to remove air and the shipping solution from the Ultra Filter Cartridge.

Follow these steps to rinse the Ultra Filter Cartridge.

1. **Manually** close the Inlet Valve (Figure 11).
2. Make sure a drain hose is connected to the Rinse Valve. Direct this hose to a drain.

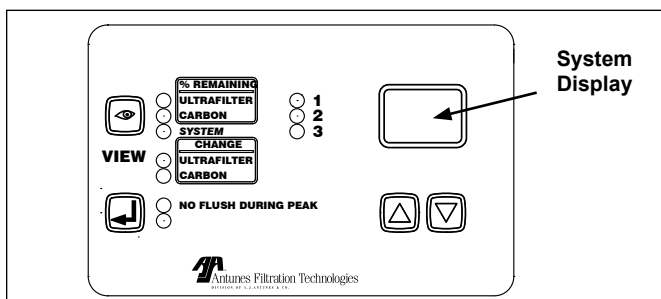


Figure 10. TAP System Control Panel

3. **Manually** open the Rinse Valve (Figure 11).
4. Enter the **06** program. Press and hold (in order) the **VIEW**, and **▲** buttons until the red **SYSTEM** LED illuminates and "--" appears on the display (Figure 10).

**NOTE:** Ultra Filter Cartridge must be rinsed to drain before use. Rinsing to drain removes storage solution and air. Do **NOT** rinse into carbon if present. Carbon life and/or performance may be affected.

5. Use the **▲** button to scroll up to "**06**" and press the **FLUSH** button to start the rinse program. The system displays **d3** and begins to depressurize.
6. **Manually** open the Inlet Valve. Press the **FLUSH** button to start the **r1** stage.
7. Wait until the display flashes **r1** (approximately 1 minute). The system beeps.
8. Press the **FLUSH** button. The system starts the **r2** stage.
9. Wait until the display flashes **r2** (approximately 15 minutes) The system beeps.
10. **Manually** close the Rinse Valve.
11. Press the **FLUSH** button to start the **r3** stage.

**INSTALLATION (continued)**

12. Wait until the display flashes **r3** (approximately 15 minutes). The system beeps.
13. **Manually** open the Rinse Valve.
14. Press the **FLUSH** button to start the **r4** stage (Rinse Flow stage).
15. Wait until the display flashes **r4** (approximately 5 minutes). The system beeps.
16. **Manually** close the Rinse Valve.
17. Press the **FLUSH** button to start the **r5** stage.
18. Wait for 1 minute. Water flows through the UFL housing and out of the Drain Solenoid Valve.
19. The system begins the **r6** stage. The system completes depressurization and displays **d3**.
20. Repressurize the system using the **08** program. Press and hold the **VIEW** and **▲** buttons until the red **SYSTEM** LED illuminates and “--” appears on the display.
21. Use the **▲** button to scroll up to “**08**”.
22. Press the **FLUSH** button to start the Pressurize System program.

The system repressurizes and makes water available through the system.

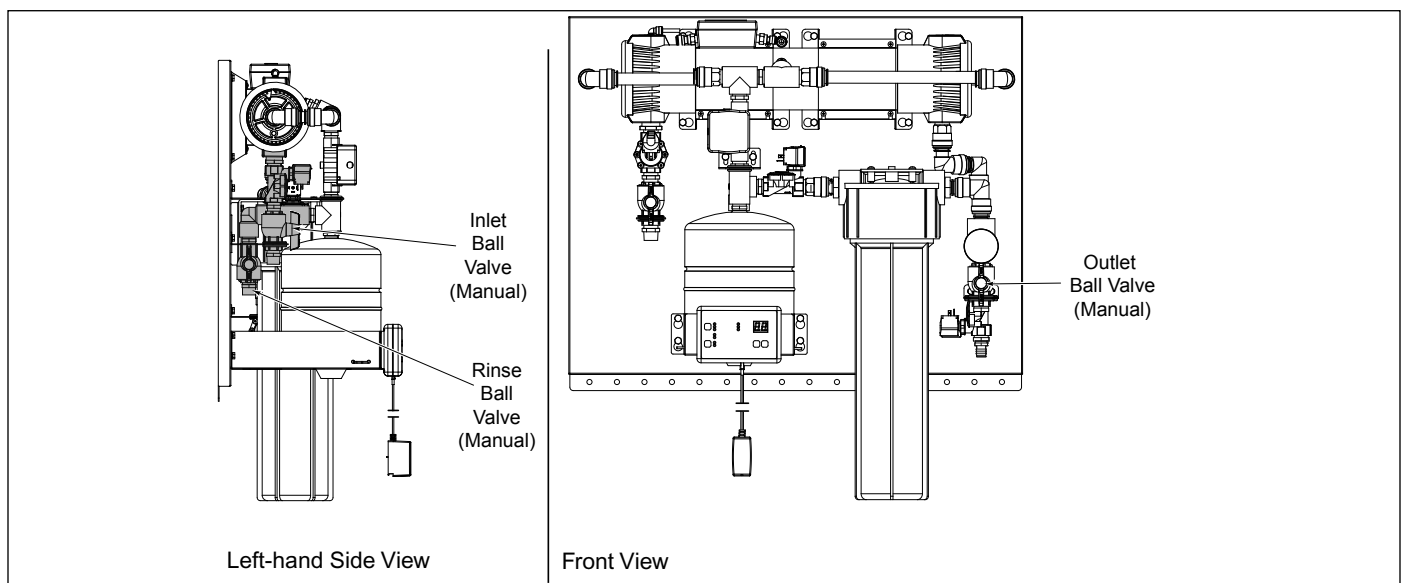
**Rinsing the Carbon Element and Plumbing (TAP-421 units only)**

The Carbon Element is used on TAP-421 units only. The Carbon Element **must** be rinsed before using the system the first time and after replacing the Carbon Element.

1. Direct water from the System Outlet to a drain.
2. Turn on the water to the system.
3. Allow water to flow through the Carbon Element and Carbon Element Housing to flush out trapped air and any debris that may be present.
4. To help remove trapped air from the Carbon Element Housing, press the red button on the top of the housing until water just begins to come out of the button.
5. Flush the Carbon Element for at least 5 minutes.

**NOTE: Do NOT consume water used during this process.**

6. When the Carbon Element flushing is complete, turn off the water to the system.
7. Reconnect the water to service. The system is now ready for use.
8. **For new piping installations:** After making the connection to the System Outlet:
  - a. Open the faucet or tap closest to the filter system
  - b. Slowly open the Inlet Valve.
  - c. Allow the pipe to flush until all debris is removed.



**Figure 11. Manual Valve Locations (TAP-420/421)**

## INSTALLATION (continued)

### Sanitizing the System and Lines

**NOTE: If installed, remove the Carbon Element from the system BEFORE Sanitizing.**

The plumbing must be sanitized to eliminate possible contamination that may have occurred during the installation process.

One ounce (30 ml) of liquid chlorine bleach (regular bleach, unscented 6 % sodium hypochlorite) can be used to sanitize the plumbing. The amount of bleach to use depends on the system installed and the amount of plumbing downstream of the TAP System.

**NOTE: Follow the handling and safety instructions supplied with the bleach.**

1. Follow the procedures in the *Rinsing the Ultra Filter Cartridge* section of this manual.
2. Remove the Carbon Element from the system (TAP-421 systems only).
3. Turn off the water to the system.
4. Open the faucet closest downstream to the system.
5. Allow the system and plumbing to drain.
6. If an inlet sanitation fitting is installed, remove the plug or disconnect the water line at the inlet of the system. Allow the water to drain out of the system.
7. Pour the bleach into the inlet sanitation fitting or inlet water line using a cup or funnel. Be careful not to spill bleach onto clothing or skin.
8. Reattach the plug on the sanitation fitting or inlet water line.
9. Slowly turn on the water supply to the system.
10. Allow water to flow through the system and out of the open faucet until the smell of bleach is present.
11. Close the faucet.
12. Let the system stand without water flow for at least 15 minutes to allow the bleach to sanitize the pipes.
13. After 15 minutes without water flow, open the faucet.
14. Allow water to flow through the system until the presence of bleach is gone.
15. Open all other faucets in line with the system to flush any bleach from the plumbing.
16. Close all open faucets.
17. If your system uses Carbon Element (TAP-421 systems only) and you removed them in step 2, follow the steps in the *Replacing the Carbon Element* in the Maintenance section of this manual.
18. If necessary, reinstall the Carbon Element or install a new Carbon Element.
19. Repressurize the system using the **08** program. Press and hold the **VIEW** and **▲** buttons until the red **SYSTEM** LED illuminates and “--” appears on the display.
20. Use the **▲** button to scroll up to “**08**”.
21. Press the **FLUSH** button to start the Pressurize System program.

The system repressurizes and makes water available through the system. Sanitation is complete.

## OPERATION

### Operation

The TAP System is designed to operate with little to no user intervention. The system monitors and flushes itself automatically.

### Manual Flushing

The TAP System is designed to automatically flush but can also be manually flushed when desired. To manually flush the system:

1. Press and hold the **FLUSH** button for 3 to 4 seconds.
2. The system enters the **FLUSH** program and automatically performs the following stages while displaying the stage code on the display throughout the process:
  - **F1** (Close Permeate Solenoid Valve stage)
  - **F2** (Close Inlet Solenoid Valve stage)
  - **F3** (Open Drain Solenoid Valve stage)
  - **F4** (Open Inlet Solenoid Valve stage)
  - **F5** (Close Drain Solenoid Valve stage)
  - **F6** (Open Permeate Solenoid Valve stage)

**NOTE: The system automatically performs these stages**

3. Flushing is complete once the system completes the **F6** stage of the **FLUSH** program.

### System Power Loss

The TAP System is designed to run with constant power. Thus, the power cord should always be plugged into an appropriate power outlet that will not be switched off.

In the event of a power loss, the TAP System:

1. Aborts any active valve program.
2. Resets the valves to normal operation (pressurized/ water available).
3. Sounds an alert to notify the operator of the power loss.
4. Records the time of the power loss into the controller memory.
5. Displays the **EV-20** event code (indicating a loss of power).
6. The system beeps 4 times every 10 seconds for approximately 2 minutes. Then it beeps once every 30 seconds.

To turn off the audio alert, press and release both the **▲** and **▼** buttons at the same time.

**NOTE: Be sure to restore power to the system. The system displays the EV-21 code when power is restored to the system.**

### CAUTION

**The system continues to filter water even after a power loss but it will NOT flush. Therefore, running the system without power may shorten the life of the filtration elements. Make sure the system always has power.**

### Viewing Filtration Element Data

The TAP System monitors the lifespan of the filtration elements and can display the percent-of-life remaining for the selected component. Follow these steps to view the Filtration Element Data:

1. Press the **VIEW** button to cycle through the Ultra Filter and Carbon LEDs.
2. Pressing the **VIEW** button again steps to the next component.
3. The system displays the percent-of-life remaining for the selected component in the display.

### Viewing Sensor Readings

The TAP System uses the Flow Meter and Differential Pressure Sensor to monitor the Flow Rate and Differential Water Pressure respectively.

The system also uses measurements to determine when to automatically flush and monitors the effectiveness of the flush operations. To view this data:

1. Press and hold both the **VIEW** and **▼** buttons until the Red **SYSTEM** LED illuminates.
2. Press the **VIEW** button to scroll through the green LEDs (numbered 1, 2, and 3 - Figure 12) which indicate the following data:
  - **LED 1** (top): Used to determine when the system automatically flushes and measures the effectiveness of flush operations.
  - **LED 2** (middle): Flow Rate, in gallons per minute (gpm)
  - **LED 3** (bottom): Differential Water Pressure, in pounds per square inch (psi)
3. To exit, press and hold the **FLUSH** button until the red **SYSTEM** LED turns off.

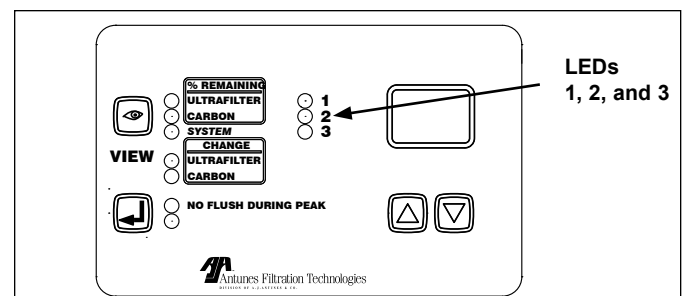


Figure 12. TAP System Control Panel

## MAINTENANCE

### Replacing the Ultra Filter Cartridge

**NOTE:** Always install a new Carbon Element after replacing the UFL cartridge.

This procedure involves depressurizing the system, replacing the UFL cartridge, and then repressurizing the system.

#### DEPRESSURIZE THE SYSTEM

1. Depressurize the system using the **07** program. Simultaneously press the **VIEW** and **▲** buttons. The red system LED illuminates and the system displays "--" on the display.
2. Use the **▲** and **▼** buttons to scroll to **07**.
3. Press the **FLUSH** button.

The system performs the **07** program, which consists of the following stages:

- **d1** (Close Inlet Valve stage)
- **d2** (Open Drain Valve stage)
- **d3** (Close Permeate Valve stage)

4. When the **07** program completes, place a bucket under one end of the Ultra Filter Cartridge Housing.
5. Refer to Figure 13 (and inset). Locate the elbow fitting on the desired side of the cartridge and push the collet squarely in against the face of the fitting. With the collet held in this position, the fitting can be removed from the tubing. Water drains into the bucket. Discard this water.

**NOTE:** Make sure there is enough room next to the system to remove the cartridge.

6. Remove the Snap Ring from the Ultra Filter housing. Grab the raised lug with a pair of pliers and pull towards the center of the end cap and away. The ring should lift out of its groove.
7. Remove the End Cap, End Cap O-ring, and Cartridge from the housing (Figure 13).

**NOTE:** If the cartridge does not easily come out of the housing, remove the opposite End Cap for assistance during Step 4.

8. Inspect the cartridge O-rings and end cap O-ring for nicks or cuts. Replace as needed.
9. Lubricate all O-rings with a food-grade silicone lubricant. Apply a light coating of lubricant to the inside center tube at both ends of the new cartridge.
10. Record the serial number of the new cartridge. The cartridge serial number is engraved on one end of the outer tube (for example: 05K 12013).
11. Install the End Cap O-ring on the End Cap and insert the End Cap into the end of the new cartridge.
12. Position the new cartridge and End Cap at the housing and gently insert into the housing.
13. Press the End Cap into position until it is fully seated and the Snap Ring groove is visible.

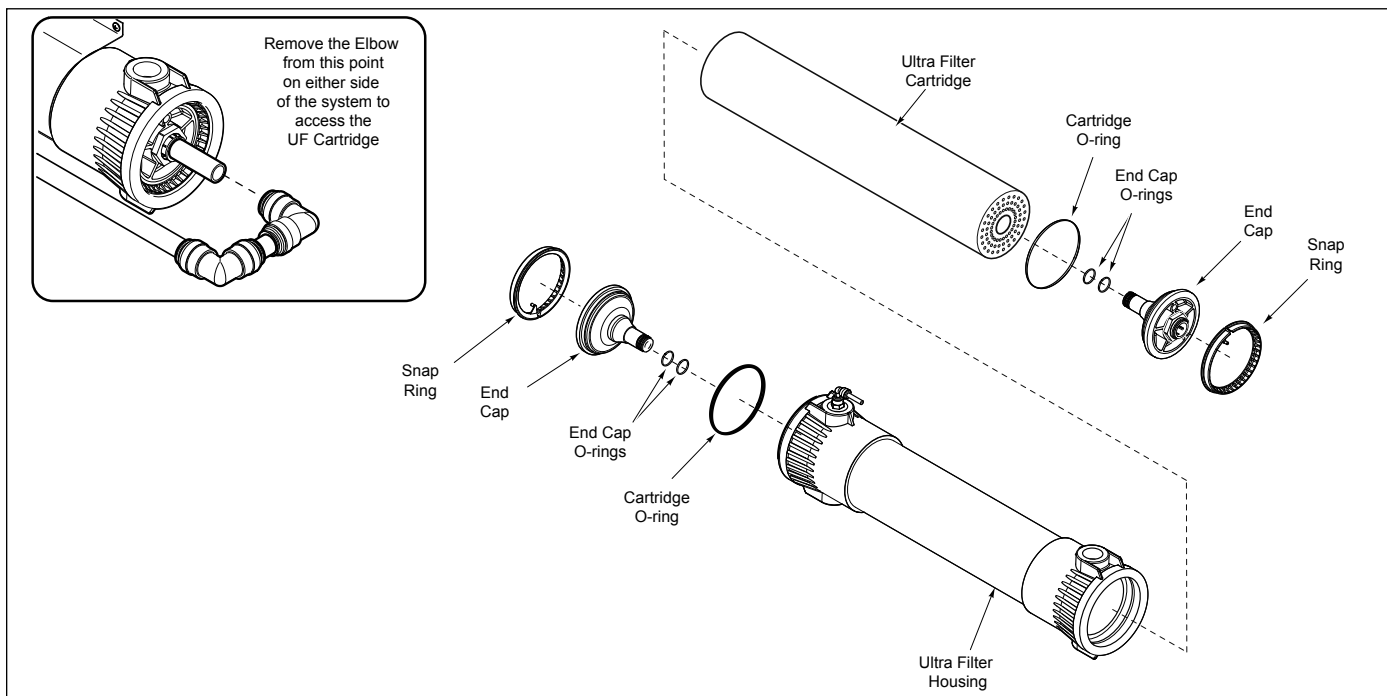


Figure 13. Replacing the Ultra Filter Element



**MAINTENANCE (continued)**

14. Install the Snap Ring by guiding the non-lugged end into the groove first, pushing outward and working around the ring until it snaps into place.

**NOTE: Make sure that the Snap Ring is fully seated before turning the water on.**

15. Re-attach the elbow fitting that was disconnected in Step 5 (Figure 13 and inset). Push the fitting onto the tubing until it comes into contact with the internal tubing stop. Rotating the fitting slightly during installation helps make the connection slide past the O-ring seal.

**NOTE: Make sure the fitting is completely inserted onto the tubing past the O-ring. A loose connection results in leaking at the point of connection.**

16. Rinse the new Ultra Filter cartridge before placing the system back into operation. Follow the **Rinsing the Ultra Filter Cartridge** and **Sanitizing the System and Lines** procedures in the Installation section of this manual to complete the cartridge change.
17. When rinsing is complete, repressurize the system. Use the ▲ or ▼ buttons to scroll to “08” and press the **FLUSH** button to start the Pressurize program.

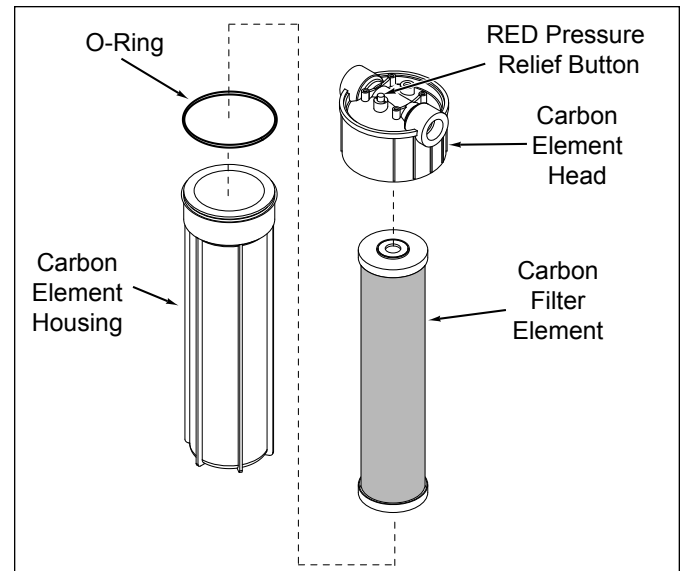
**Replacing the Carbon Element (TAP-421 ONLY)**

The life of a Carbon Element depends on the overall quality of the water in the area. Follow these steps to replace the Carbon Element:

1. Turn off water to the system by closing the Inlet valve and the Outlet valve.
2. Run the 03 program. Press and hold the **VIEW** and ▲ buttons. The red system LED illuminates and “--” appears on the display.
3. Use the ▲ and ▼ buttons to scroll to 03.
4. Press the **FLUSH** button.

The system performs the 03 program, which consists of the following stages:

- C1 (Close Inlet Valve stage)
  - C2 (Open Drain Valve stage)
  - C3 (Open Permeate Valve stage)
5. When the 03 program completes, press and hold the RED Pressure Relief Button on the top of the Carbon Element Housing (Figure 14) to lower the water level inside the housing by 2 to 3 inches.
  6. Remove the Carbon Element Housing.



**Figure 14. Replacing the TAP Carbon Element**

7. Empty any water into a drain and discard the old Carbon Element. See Figure 14.
  8. Inspect the O-ring on the Carbon Element Housing. Replace the O-ring if it is cracked, twisted, or missing.
  9. Lubricate the O-ring with an approved food grade lubricant and install into the Carbon Element Housing.
  10. Install the new Carbon Element into the Carbon Element Housing.
- NOTE: Make sure the End Seal gaskets are in place on both ends of the Carbon Element. The gasket is retained on the end of the element in the recessed groove. Be careful that the gasket does not fall off the element while placing the element into the bowl.**
11. Screw the Carbon Element Housing (containing the Carbon Element) into place. Tighten the Carbon Element Housing until it stops. The housing will come to a hard stop at the end of the thread. Use a filter wrench if necessary.
  12. Direct the outlet of the system to drain.

**NOTE: It is important to direct the system outlet to drain as the water resulting from Steps 13 through 17 should NOT be used.**

13. Next, repressurize the system using the “08” program. To enter the program, press and hold (in order) the **VIEW** and ▲ buttons until the red **SYSTEM** LED illuminates and “--” appears on the display.
14. Use the ▲ or ▼ buttons to scroll to “08”.

## MAINTENANCE (continued)

15. Press the **FLUSH** button to start the Pressurize System program. This allows the system to pressurize when the Inlet valve is opened and make water available to the Carbon Element.
16. Turn on the water to the system by opening the Inlet Valve and allow water to flow through the Carbon Element and Housing to rinse out trapped air and any carbon fines that may be present.  
  
To help remove trapped air from the Carbon Element Housing, press the red button on the top of the housing until water just begins to come out of the button.
17. Rinse the Carbon Element for at least 5 minutes.

**NOTE: Do not consume the water used for rinsing the Carbon Element.**

18. When the Carbon Element rinsing completes, **manually** close the Inlet Valve and reconnect the water to service.
19. When the system is reconnected, turn on the water by **manually** opening the Inlet Valve and Outlet Valve. The system is ready for use.

### Resetting the Carbon Element Accumulated Total Value

The TAP System uses the Carbon Element Accumulated Total feature to measure the lifespan of the Carbon Element.

After installing the Carbon Element, the Carbon Element Accumulated Total value must be reset. This ensures that system maximizes the life of the Carbon Element.

1. Reset the Carbon Element Accumulated Total using the **04** program. Simultaneously press the **VIEW** and **▲** buttons. The red **SYSTEM** LED illuminates and “ -- “ appears on the display.
2. Use the **▲** or **▼** buttons to scroll to **04**.
3. Press the **FLUSH** button to start the program. The system automatically resets the Carbon Element Accumulated Total. The display returns to “ -- “.
4. Press the **FLUSH** button again to return the system to normal operation.

### System Sanitization

The system and downstream plumbing should be sanitized at least once a year.

When necessary, follow the **Sanitizing the System and Lines** procedure in the Installation section of this manual.

**MAINTENANCE (continued)**

**NOTE:** The system beeps every time a button is pressed.

**NOTE:** When in normal operating mode, pressing both the ▲ and ▼ buttons displays the current software version.

**POWER LOSS TO SYSTEM (SYSTEM UNPLUGGED OR SUPPLY INTERRUPTED)**

- Any active valve program is aborted
- Valves reset to normal operations (pressurized, water available)
- Control “BEEPS” five times every 3 minutes if water flow is present
- If no flow is present for 15 minutes, beeping stops until water flow starts again
- Pressing both ▲ and ▼ will silence beeper

**FLUSH (BUTTON)**

Press and hold to run a Flush cycle. The system automatically performs the following stages:

- F1 - Close Permeate Valve - Wait for Flow = 0 gpm or 30 seconds
- F2 - Close Inlet Valve
- F3 - Open Drain Valve - Wait for Flow = 0 gpm or 60 seconds
- F4 - Open Inlet Valve - Wait for 12 seconds
- F5 - Close Drain Valve - Wait for Flow < 3 gpm or 15 seconds
- F6 - Open Permeate Valve

**VIEW (BUTTON) Normal Operating Mode**

Toggles between UFL cartridge % of life and Carbon Element % of life

**VIEW (BUTTON) – SENSOR READINGS**

1. Press and hold (in order): **VIEW** button and ▼ button.
2. The red System LED illuminates.
3. Press the **VIEW** button to scroll through the green LED's which indicate the following information:
  - LED #1 (Top) current actual VER Value
  - LED #2 (Middle) Flow Rate (gpm)
  - LED #3 (Bottom) Differential Pressure (psid)
4. To exit Sensor Readings, press the **FLUSH** button until red LED turns off.

**ERROR CODE DESCRIPTIONS**

<b>EC-01</b> - Differential Pressure = 0 psid Flow Rate is greater than 0 gpm	<b>EC-08</b> - Insufficient flush (Tank refill amount is less than ½ of the discharge amount)
<b>EC-02</b> - Differential Pressure is greater than 45 psid (at any flow rate)	<b>EC-09</b> - Memory data re-initialized
<b>EC-03</b> - Differential Pressure is greater than 0 psid, Flow Rate = 0 gpm	<b>EC-10</b> - Flow switch #1 fail
<b>EC-06</b> - Flush Flow is less than 0.75 gallon	<b>EC-11</b> - Flow switch #2 fail
<b>EC-07</b> - Flow is greater than 10 gpm	<b>EC-12</b> - Flow switches erratic
	<b>EC-13</b> - EEPROM bad

**EVENT CODE DESCRIPTIONS**

- EV-20 - Power removed
- EV-21 - Power restored
- EV-22 - Carbon Element changed
- EV-23 - UFL Filter changed
- EV-24 - Time exceeded, Flow Rate > 0 gpm
- EV-25-31 - Factory use only

**MAINTENANCE (continued)**

**SERVICE MENU ACCESS**

Press and hold in order, the **VIEW** button and the **▲** button.

1. The red SYSTEM LED illuminates and the "--" appears in the display.
2. Release all buttons. The system displays "--".
3. Use the **▲** and **▼** buttons to select the desired function and press the **FLUSH** button
4. To exit the Service Menu, press the **FLUSH** button until the red LED turns off.

"--" - Exit Service Level 2	<b>13</b> - Set Differential Pressure Sensor to 0 psi
<b>01</b> - Set Clock (Year; Month; Day; Hour 0-23; Minute)	<b>14</b> - Display Error Codes. Use the <b>▲</b> and <b>▼</b> to view codes.
<b>02</b> - Set Flush Time Hour and Minute (Hour 0-23; Minute)	<b>15</b> - Clear Displayed Error Codes (Data stays in memory)
<b>03</b> - Change Carbon Element	<b>20</b> - Set Valve Times (Factory use only)
<b>04</b> - Reset Carbon Element Accumulated Total	<b>21</b> - Set Forward Flush Time (Factory use only)
<b>05</b> - Set Maximum Gallons for Carbon Element (x 10,000)	<b>22</b> - Set Maximum VER Value (Factory use only)
<b>06</b> - Rinse New UFL Membrane and reset UFL Total	<b>23</b> - Set Flush Trigger Point (VER Value) (Factory use only)
<b>07</b> - Depressurize UFL System	<b>24</b> - Reset to Factory Values
<b>08</b> - Pressurize System	<b>25</b> - Set Product Type (Model 42x = "2", Model 44x = "4"). Use the <b>▲</b> and <b>▼</b> buttons.
<b>09</b> - Toggle Valves (Green LED illuminated when valve is closed) Inlet ["VIEW"] #1; Permeate ["▲ "] #2; Drain ["▼ "] #3	<b>26</b> - Set for No Flush During Peak (11am-2pm). "1" = on, "0" = off. Use the <b>▲</b> and <b>▼</b> buttons.
<b>10</b> - Dump User Data out USB (serial) port	<b>27</b> - Set VER Factor (Factory use only)
<b>11</b> - Dump Events out USB (serial) port	<b>28</b> - Set Error Codes Display. "1" = on, "0" = off. Use the <b>▲</b> and <b>▼</b> buttons.

**Note: Items 25 & 26 are in versions 2.3 AC and 3.3 DC. Items 27 & 28 are in version 2.4 & 3.4 (as of 8-10-07 not released).**

**PROGRAM DESCRIPTIONS** (Simultaneously pressing the **▲** and **▼** buttons aborts any active program).

**03 - (Change Carbon Element)**

- C1 - Close Inlet Valve stage
- C2 - Open Drain Valve stage
- C3 - Open Permeate Valve stage

**06 - (Rinse New UFL Membrane)**

- Operator runs the **06** program (See Service Menu Access above)
- The system automatically runs the **07 - (Depressurize UFL System)** program (see below)
- The system displays **d3**. When the system beeps, operator opens both the Rinse Ball Valve and the Inlet Ball Valve. Press **FLUSH**.
- **r1** stage. Operator - wait for 1 minute. The system beeps. Press **FLUSH**
- **r2** stage: Operator - wait for 15 minutes. The system beeps. Manually close the Rinse Ball Valve. Press **FLUSH**.
- **r3** stage: Operator - wait for 15 minutes. The system beeps. Manually open the Rinse Ball Valve. Press **FLUSH**.
- **r4** stage: Operator - wait for 5 minutes. The system beeps. Manually close the Rinse Ball Valve. Press **FLUSH**.
- **r5** stage: Operator - wait for 1 minute as the system automatically opens the Drain Valve.
- **r6** stage: The system closes the Inlet Valve - the system is depressurized.
- **d3** stage: Operator - Activate the **08 - (Pressurize System)** program.

**07 - (Depressurize UFL System)**

- d1 Close Inlet Valve stage
- d2 Open Drain Valve stage
- d3 Close Permeate Valve stage

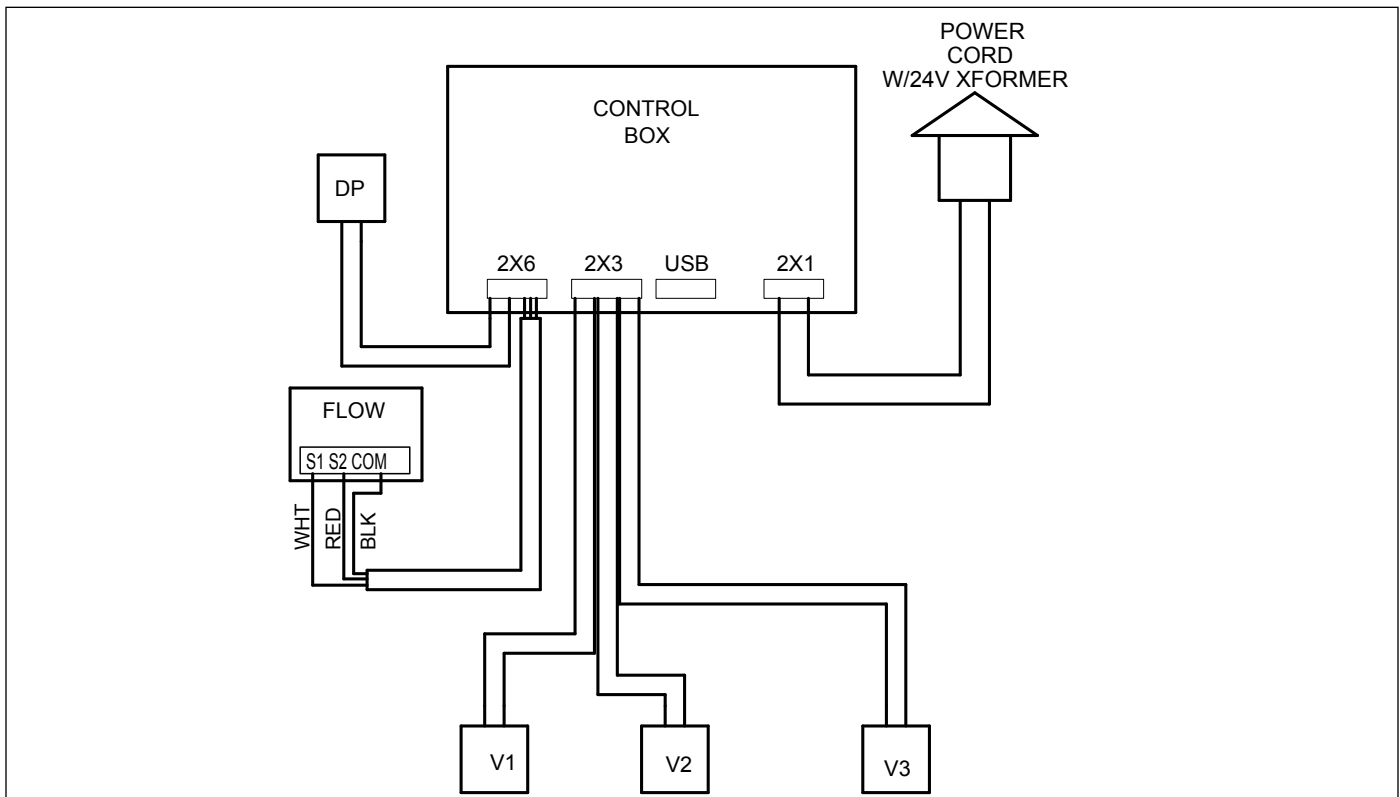
**08 - (Pressurize System)**

- P1 - Close Drain Valve stage
- P2 - Open Inlet Valve stage
- P3 - Open Permeate Valve stage

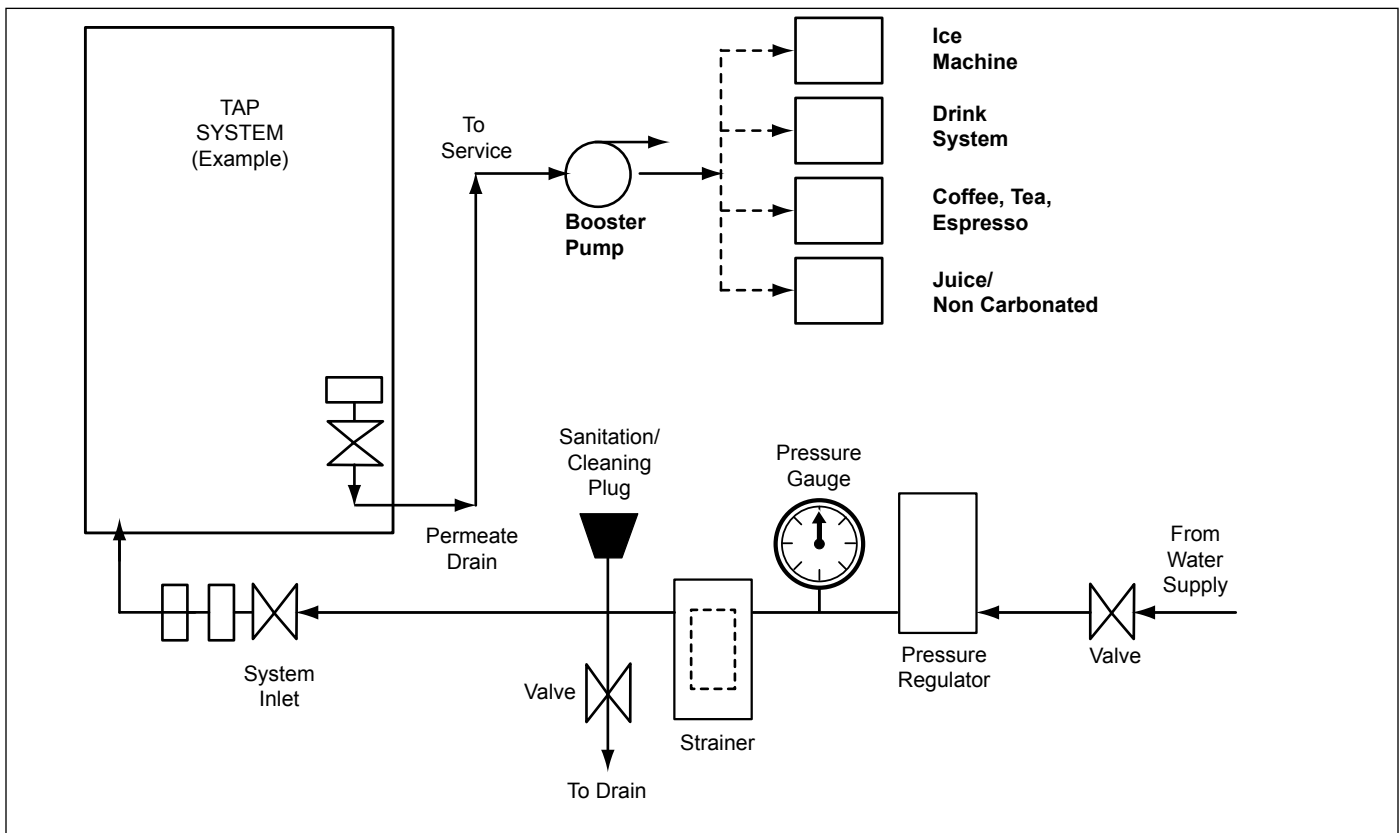
## TROUBLESHOOTING

Problem	Possible Cause	Corrective Action
Unit does not have power.	The power cord is not plugged into the appropriate outlet or control box.	Plug power cord into the appropriate outlet.
	The unit is plugged into a switched electrical outlet.	Plug the power cord into an unswitched outlet.
	SMART Controller Control Board is inoperable.	Contact your maintenance person or Authorized Service Agency.
	Transformer is defective.	
No water comes out of the filter system.	Inlet/Outlet Ball Valves closed.	Open the Inlet/Outlet Ball Valves.
	System depressurized.	Run System Pressurize program.
	Drain Valve is stuck open.	Clean, rebuild, and/or replace the Drain Valve.
	Rinse Ball Valve is open.	Close the Rinse Ball Valve.
	The system may be in a flush cycle.	Wait for the flush cycle to end.
	Wiring Harness incorrectly connected to solenoid valves.	Confirm wiring harness connections.
	Wiring harness has broken wire/connection.	Repair or replace the wiring harness.
	Inlet Strainer (if installed) is plugged.	Clean or replace Inlet Strainer
	Ultra Filter Cartridge is plugged.	Replace Ultra Filter Cartridge.
	Carbon Element is plugged.	Replace Carbon Element.
Low water flow comes out of the filter system.	See above.	See above.
	The inlet water pressure is too low.	Boost the inlet water pressure.
	The outlet check valve may be plugged or defective.	Clean or replace the outlet check valve assembly.
	The inlet flow restrictor may be plugged.	Clean or replace the inlet flow restrictor.
Water tastes bad.	Carbon Element needs replacing.	Replace Carbon Element.
	Storage/shipping solution not completely flushed out of the system.	Flush the system for a longer period of time; replace carbon element.
	Biological growth in pipes.	Sanitize plumbing.
	Water condition changed.	Consider installing additional filtration.
	Broken capillaries in Ultra Filter cartridge.	Replace Ultra Filter cartridge.
Flush runs continuously.	Drain Valve stuck open.	Clean, rebuild, or replace the Drain Valve.
	Controller sending continuous signals to valves.	Replace the controller.
Flush runs too long. [Factory set single flush cycle is 1 minute; up to 3 consecutive cycles possible (total 3 minutes)]	Flush settings changed from factory setting.	Confirm flush settings; change back to factory settings.
	Inoperable SMART Controller.	Replace the SMART Controller.
Flush occurs at a time of high water usage.	The controller time clock is set incorrectly or setting was lost due to power loss.	Set time clock to correct time.
	Flush time set wrong	Set flush time to acceptable time.
Water splashes at drain during flush.	Drain line not positioned properly.	Reposition the end of the drain line.
	Drain not capable of handling high flow rate.	Clean drain; find alternate drain.
Water leaks at ends of the filter cartridge after changing cartridge.	O-Ring not lubricated.	Lubricate O-ring with food grade lubricant.
	O-Ring is split, cut, or twisted.	Replace O-ring.
	Cartridge end connections are loose.	Tighten with wrench; replace fittings if needed.
Water leaks from Carbon Bowl.	O-ring not lubricated.	Lubricate O-ring with food grade lubricant.
	O-ring is split, cut, or twisted.	Replace O-ring.
Water leaks from system fitting or connection.	Fitting broken or loose.	Tighten or replace the fitting.
	Not enough pipe thread sealant used.	Redo the fitting with the proper amount of sealant.

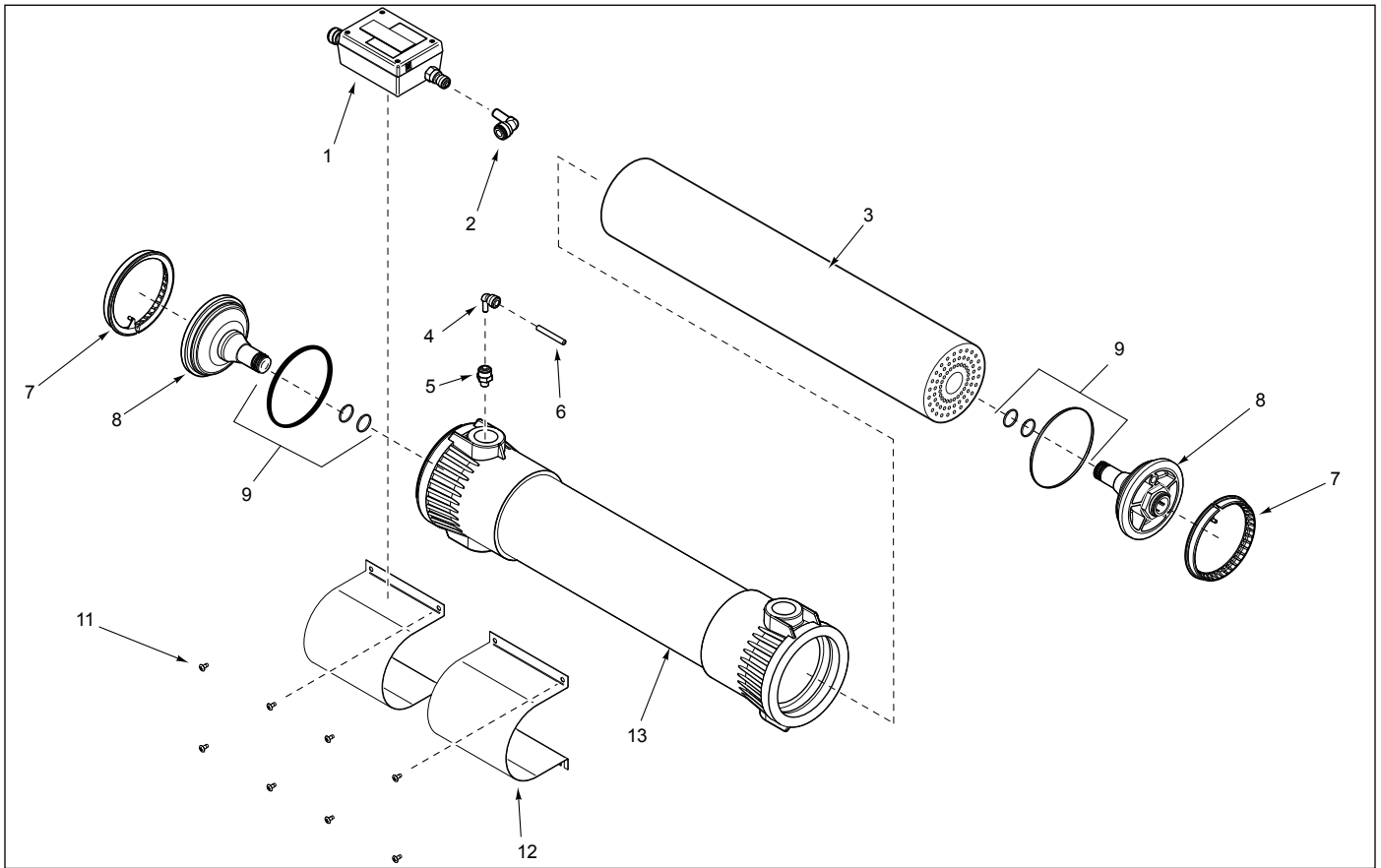
**WIRING DIAGRAM**



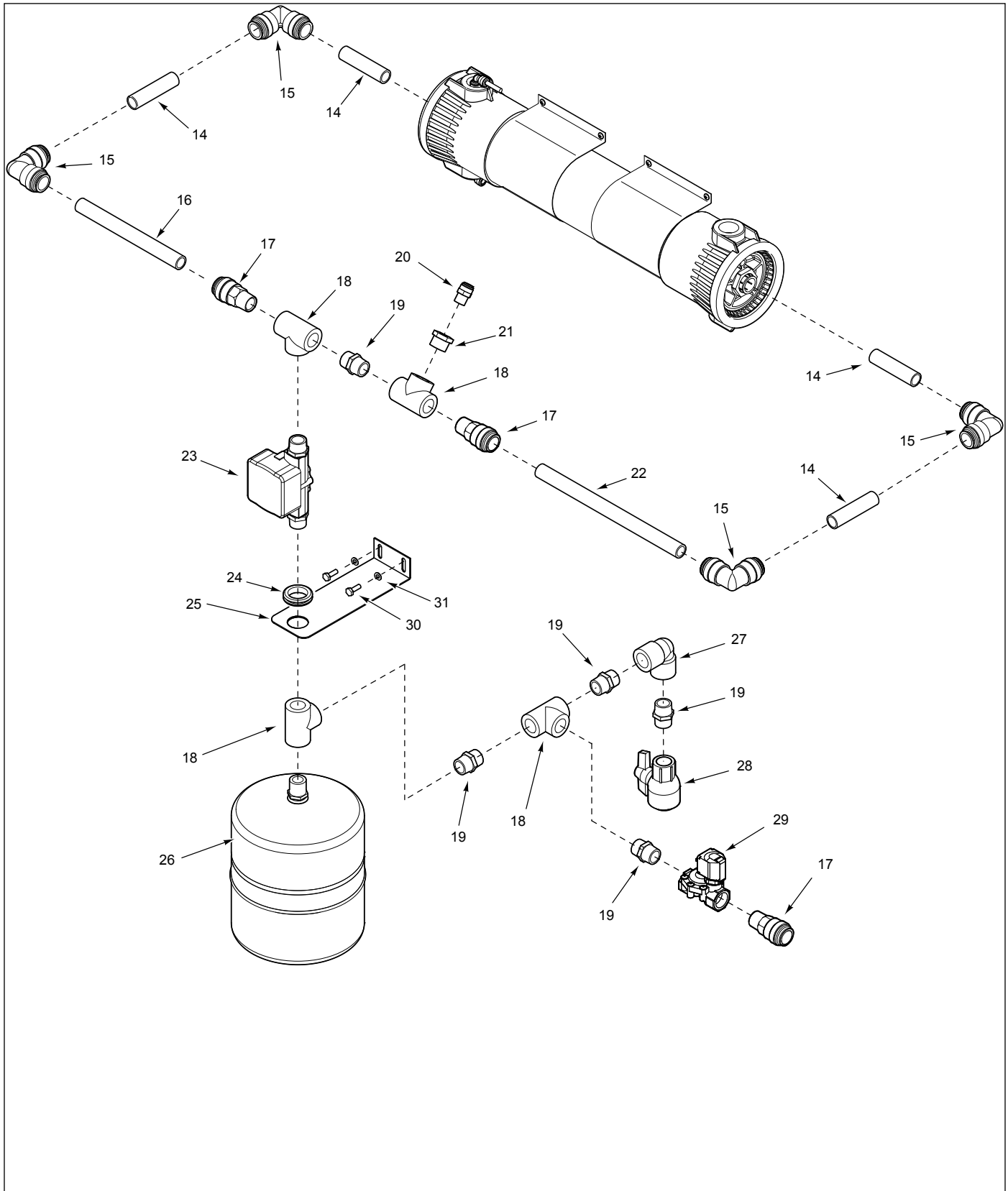
**RECOMMENDED EQUIPMENT SCHEMATIC**



**REPLACEMENT PARTS**

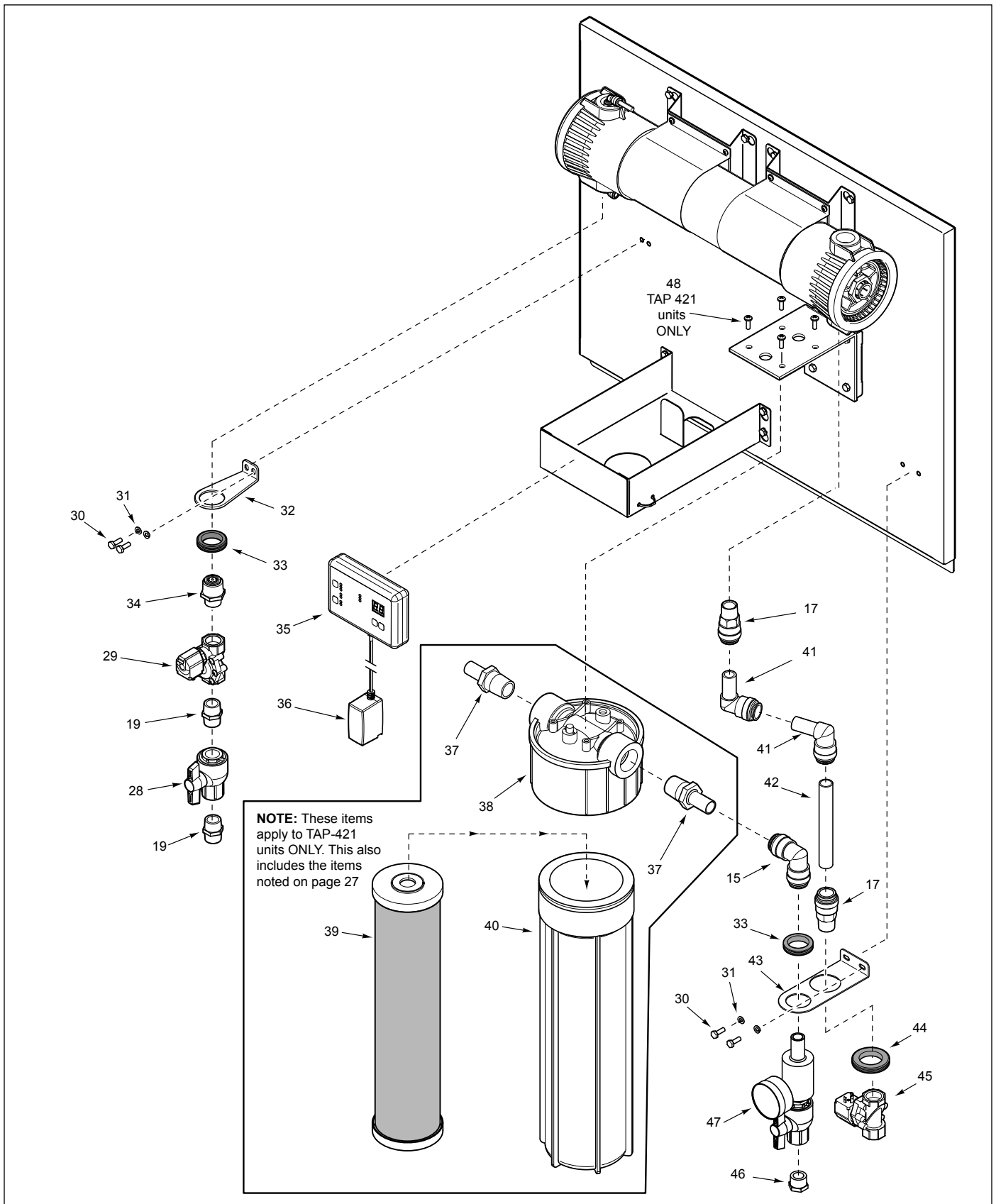


**REPLACEMENT PARTS (continued)**

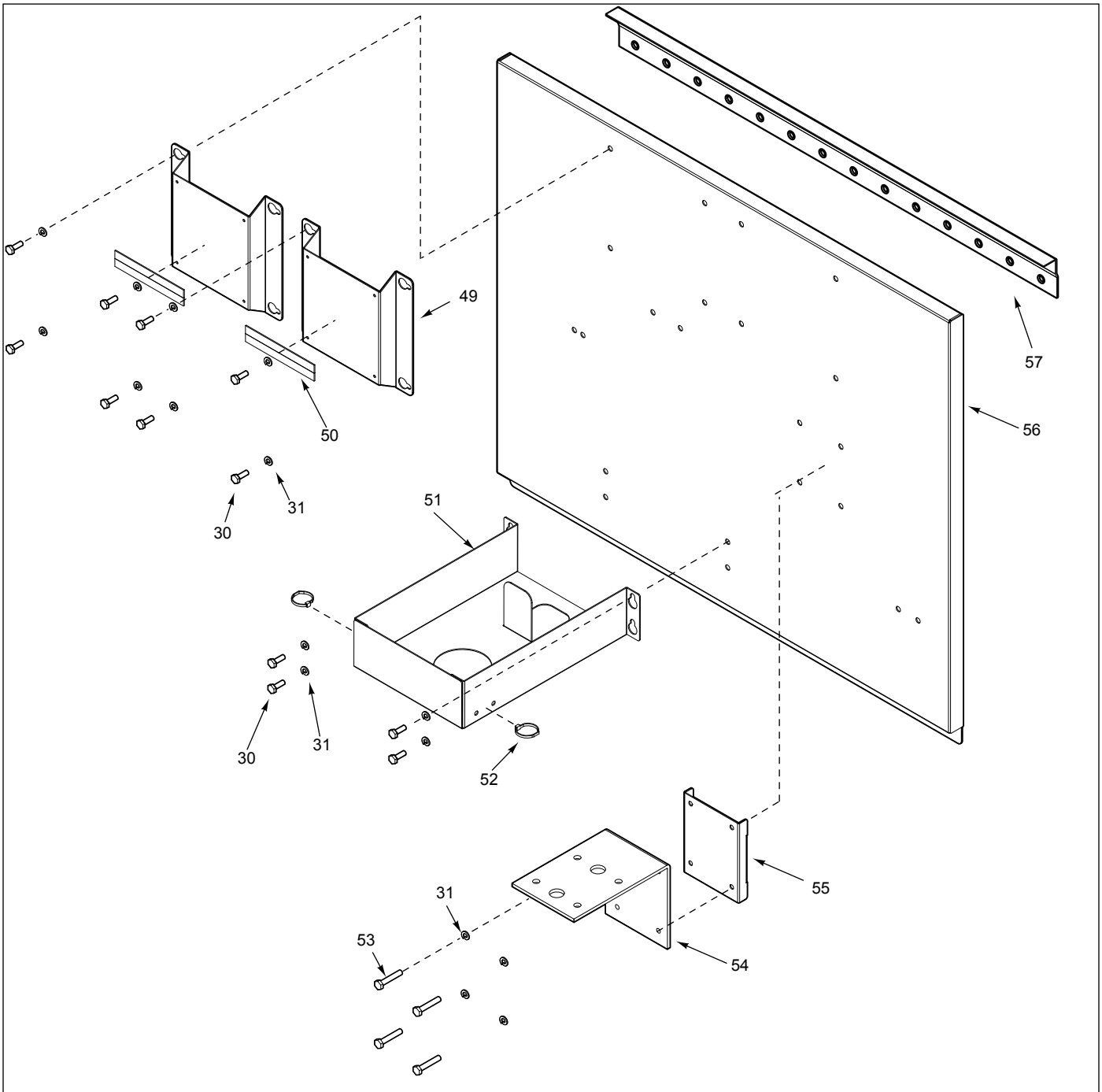




**REPLACEMENT PARTS (continued)**



**REPLACEMENT PARTS (continued)**



**REPLACEMENT PARTS (continued)**

Replacement Parts can be purchased from an authorized dealer. Contact  
**A.J. Antunes & Co. at 1-630-754-1000 or toll free in the United States at 1-800-253-2991.**

Item	Part No.	Description	Qty.
1	7000527	TAP Pressure Differential Kit	1
2	2190172	Elbow, Plug-In 3/8"	1
3	7000411	Cartridge Replacement Kit UFL 420 (Incl. 1 of 7000413)	1
4	2080126	Elbow, Plug-In, 1/4" Stem OD X 1/4" Tube Od	1
5	2080125	Connector, Male, 1/4" Tube OD X 1/8" NPT Thrd	1
6	2010142	Tubing, PE Black, 1/4"Od X 1.875" LG	1
7	2180181	Lock Ring	2
8	2180230	End Cap 4" Quick Connect	2
9	7000413	O-Ring Replacement Kit	1
11	3080157	Scr.Tap #08-32 X 3/8 Phtrshd; "F";410 S/S	8
12	0504065	Clamp, 4" Filter UFL	2
13	2180239	Housing, Filter 420 W/Sensor Port	1
14	2010128	Tubing, Pex, 7/8" OD 3.5" Lgth	4
15	2190156	Union Elbow	5
16	2010138	Tubing, Pex, 7/8" OD X 8.47" LG	1
17	2190157	Male Connector 3/4" NPT	5
18	2190130	Tee 3/4" NPT	4
19	2190144	Nipple, Hex 3/4" NPT x 1 1/2" LG	11
20	2190170	Coupling, 3/8" NPT	1
21	2190165	Reducer Bushing, 3/4-NPT to 3/8-NPT	1
22	2010140	Tubing, Pex, 7/8" OD X 11.812 LG	1
23	7000528	Water Meter (TAP System)	1
24	0400381	Grommet, 1.75 OD x 1.187 ID	1
25	0504309	Tank Support	1
26	2180215	Tank, 2.1 Gallon, 3/4" NPT	1
27	2190126	90 Deg Elbow PVC 3/4" NPT	1
28	2170126	Valve, Ball, PVC, 3/4" NPT, Epdm Seals	3
29	4040181	Solenoid Valve Latching w/o Spring	2
30	3250103	Bolt,#1/4-20 X 3/4" Hex Head (S/S)	18
31	3250154	Washer, Lock 1/4" S/S Helical Spring, Regular	22

Item	Part No.	Description	Qty.
32	0504580	Bracket Support, Inlet	1
33	0400372	Grommet, Support	1
34	7000765	Flow Regulator Assy., 7.9 gpm	1
35	7000545	DC Smart Controller Kit (Incl. 1 of item 36)	1
36	0012146	DC Power Supply 100 - 240 VAC	1
37	2190154	Adaptor, 1" STEM	2
38	2180220	Head, Carbon (TAP System)	1
39	7000669	Carbon Element Kit - Single C-420	1
40	2180221	Carbon Housing and O-Ring, Clear	1
	2180282	Carbon Housing and O-Ring, White	1
41	2190159	Stackable Elbow	2
42	2010141	Tubing, PEX, 7/8" OD X 6.365" LG	1
43	0504579	Bracket, Support - Outlet	1
44	0400329	Grommet, Rubber 2" Diameter	1
45	4040182	Solenoid Valve Latching w/ spring	1
46	2190169	Reducer Bushing, 3/4"NPT to 1/2" NPT	1
47	7000529	TAP Outlet Check Valve Kit	1
48	0504359	Bracket, Carbon Filter Head (Included with item 3250185)	1
49	0504279	Bracket, Mounting	2
50	0200266	Gasket, Cartridge	4
51	0504581	Saddle (Permeate Tank)	1
52	4060107	Cable Tie, 1/8 W x 5"	2
53	3250185	Bolt, Hexcap 1/4-20 X 1 1/2" LG	4
54	0504359	Bracket, Carbon Filter Head (Incl. 4 of #48)	1
55	0504575	Bracket, Standoff - Carbon Block	1
56	0504573	Back Plate, TAP-421H	1
57	0505558	Bracket, TAP-421 Mounting	1
*58	5206019	Tubing Braided PVC 20 FT	1
*59	0700713	Wire Harness, Tap Pressure/Flow	1
*60	0700733	Wire Harness, Tap-42x Valve Control	1
<b>*Not Shown</b>			

## LIMITED WARRANTY

Equipment manufactured by A.J. Antunes & Co. has been constructed of the finest materials available and manufactured to high quality standards. These units are warranted to be free from defects in materials and workmanship for a period of one year from date of purchase under normal use and service, and when installed in accordance with manufacturer's recommendations\*. The ultra filtration membrane cartridge is warranted under the same terms and conditions on a prorated basis for 24 months from date of purchase.

\*To ensure continued proper operation of the units, follow the maintenance procedure outlined in the Owner's Manual.

1. This warranty does not cover failures due to improper system installation, defects caused by improper storage or handling prior to placing of the equipment into service. This warranty does not include overtime charges or work done by unauthorized service agencies or personnel. This warranty does not cover normal maintenance, calibration, or regular adjustments as specified in operating and maintenance instructions of this manual, and/or labor involved in moving adjacent objects to gain access to the Equipment.
2. A.J. Antunes & Co. reserves the right to make changes in design or add any improvements on any product. The right is always reserved to modify equipment because of factors beyond our control and government regulations. Changes to update equipment do not constitute a warranty charge.
3. **If shipment is damaged in transit, the purchaser should make a claim directly upon the carrier. Careful inspection should be made of the shipment as soon as it arrives and visible damage should be noted upon the carrier's documentation. Damage should be reported to the carrier. This damage is not covered under this warranty.**
4. THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EACH OF WHICH IS HEREBY EXPRESSLY DISCLAIMED. THE REMEDIES DESCRIBED ABOVE ARE EXCLUSIVE AND IN NO EVENT SHALL A.J. ANTUNES & CO. BE LIABLE FOR SPECIAL CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OR DELAY IN PERFORMANCE OF THIS WARRANTY.

Prices and specifications are subject to change without notice.



**A.J. Antunes & Co.**  
We exist to make our customers successful.

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