

PW90

MANUAL



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PW90 MANUAL

Congratulations on your choice of the **Pure Water Technology PW90 Water Dispenser**. The **PW90** model dispenses highly filtered hot and cold water. The **Pure Water Technology PW90 Water Dispenser** provides exceptional quality and great tasting water with every use.

INTRODUCTION

Carefully read and follow all instructions to ensure proper and efficient operation of your **Pure Water Technology Water Dispenser**. Contact your **Authorized Pure Water Technology Dealer** if you have any questions.

Pure Water Technology and **Authorized Pure Water Technology Dealers** employ trained service personnel who are experienced in the installation, function, and repair of this equipment. This publication is written for use by these qualified individuals. **Pure Water Technology** encourages users to learn about products, however, we believe that product knowledge and service is best obtained by consulting your **Authorized Pure Water Technology Dealer**.

Pure Water Technology Water Dispensers should be combined with selected water treatment components to create a system specifically tailored for each application by trained and qualified personnel.

Products manufactured and marketed by **Pure Water Technology** and its affiliates are protected by patents issued or pending in the United States and other countries.

Pure Water Technology reserves the right to change the specifications referred to in this literature at any time, without prior notice. Changes or modifications not expressly approved by **Pure Water Technology** could void the warranty and user's authority to operate the equipment.

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SAFETY ALERT SYMBOLS

Read and follow all safety information carefully. The signal words used in this manual are selected as shown below and based on an assessment of the degree of potential injury or damage (severe or minor) and the occurrence of injury (occurs or has the potential to occur) when the warning is ignored:

⚠ DANGER!

Indicates a situation which, when not avoided, results in death or severe injury.

⚠ WARNING!

Indicates a situation which, when not avoided, has the potential to result in death or severe injury; and/or severe property damage.

⚠ CAUTION!

Indicates a situation which, when not avoided, results in or has the potential to result in minor injury; and/or minor property damage.

SAFETY PRECAUTIONS

Basic safety precautions should be followed, including the following:

Ensure all Local, State, and Federal Laws and Codes including health and safety guidelines are met when installing **Pure Water Technology** Equipment. Only qualified service technicians should attempt installation and service of **Pure Water Technology** Equipment. Always read the entire operating instructions before using the appliance and save these instructions for future use.

⚠ DANGER! *This product can cause death or severe injury if incorrectly operated, installed or maintained. The installation, maintenance, sanitizing and any repair must be performed by qualified persons trained by Pure Water Technology International or their approved distributors only. Do not remove any panel or cover to protect against electrical shock and exposure to UV radiation.*

⚠ DANGER! **ELECTRICAL SHOCK HAZARD.** *Always use a dedicated and properly grounded outlet. Unit should be protected by ground-fault circuit interrupter (GFCI) or residual current device (RCD) having a rated residual operating current not exceeding 30mA. Use only **Pure Water Technology** supplied power cord. Never use extension cords or power strips to connect unit. Do not use if the power supply cord is damaged. Always unplug from power supply prior to servicing.*

⚠ WARNING! **AUTHORIZED USE ONLY.** *This appliance is to be used for its intended purpose as described in this manual. Untrained individuals who use this manual assume the risk of any resulting property damage or personal injury. This appliance can't be used by children and persons with reduced physical, sensory, or mental capabilities or lack of experience.*

⚠ WARNING! **DO NOT OPERATE IF DAMAGED.** *Unplug and isolate water supply if abnormal conditions exist. Contact Pure Water Technology or authorized dealer for repair, service, and installation to avoid hazards.*

⚠ WARNING! **HOT WATER.** *Unit produces Hot Water in excess of 80°C (175°F). Water above 52°C (125°F) can cause severe burns or scalding. Keep unauthorized people and children away from the unit to avoid accidental dispensing of hot water.*

- ⚠ WARNING! CONNECT TO POTABLE WATER SUPPLY.** This system is to be used for water only and is NOT intended for use where water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the system.
- ⚠ WARNING! TIP HAZARD.** Dispenser could tip or fall causing serious injury if installed with a base. Always install unit on a firm, flat, and level surface and secure unit to cabinet, wall, or floor if needed and secure to the base, if applicable. Never place heavy items on top of unit and never climb, stand, or hang on unit or storage cabinet to prevent injury and damage.
- ⚠ WARNING! UNIT IS HEAVY. TWO PERSON LIFT REQUIRED.** Transport unit empty and always use material handling equipment or two people with proper lifting technique to reduce injury risk.
- ⚠ WARNING! STORE AND TRANSPORT UNIT EMPTY. ALWAYS SANITIZE BEFORE USE.** The unit must be completely drained before storing to avoid stagnation and reduce microbiological contamination (potential bacterial growth). Always sanitize before use to eliminate any potential microbiological contaminants.
- ⚠ CAUTION! INDOOR USE ONLY.** Intended for Household Use. Never expose to direct sunlight, heat sources, or ambient air temperature above 37°C (100°F) or below 2°C (35°F). Install indoors and keep unit away from excessive humidity or rain. Never expose to freezing temperatures. Ensure there is adequate clearance around the unit to allow refrigeration system condenser to dissipate heat. Warmer environments require more clearance around the unit. Minimum clearance around all surfaces of the machine is 2-inches. Installs where the ambient temperature exceeds 27°C (80°F), require a minimum of 4-inches clearance for proper heat dissipation and efficient operation.
- ⚠ CAUTION! USE A WATER PRESSURE REGULATOR.** Pure Water Technology will not be responsible for injury or damage caused by excessive water pressure. Input or feed pressure must be 60 psi to 70 psi. Be aware of any potential pressure surges caused by building/municipal pumping stations. Failure to comply will void all warranties. The manufacturer accepts no liability for damage caused by excessive water pressure.
- ⚠ CAUTION! USE UV STABILIZED SUPPLY LINES.** Feed the unit with a potable ambient or cold-water supply only. Feed water over 37°C (100°F) can damage the treatment components. Water block devices and external leak detectors are strongly recommended. Locate the unit as close to the water supply and the electrical connections as possible. Immediately isolate or close water supply valve and contact service representative if leak is noticed.
- ⚠ WARNING! REFRIGERANT SYSTEM.** This system is manufactured with 134A refrigerant. Repairs to the refrigeration system must be performed by a certified refrigeration technician only.
- ⚠ CAUTION! DO NOT PLACE HEAVY ITEM OR WATER CONTAINER ON TOP OF UNIT.** Water may leak into the electrical system causing a fire hazard. Heavy items may fall off causing injury.

Contact Pure Water Technology for assistance or help finding an Authorized Service Representative.

PW90 FEATURES AND BENEFITS

Hot and Cold Water

The **PW90 Water Dispenser** comes standard with Hot and Cold to meet customer demands.

Water Capacity and Production

The **PW90 Water Dispenser** holds 0.5 gallons (1.9L) of Hot Water and 3 gallons (11.4L) of Cold Water.

Large Dispense Area with Recessed Faucet

11.5-inch dispense height with recessed faucet to protect from cross-contamination.

Leak Prevention

PW90 Water Dispensers are supplied with a leak stop device to cut off the water supply in the case of a water leak or overfill AND a leak detection sensor to alert the user in this event.

Touch-free Sensor Dispensing

Touch-free Sensors are used to activate select and dispensing functions.

Drip Tray with Drain Connection

Unit comes with a high-capacity Drip Tray with an optional drain connection.

RO Water Filtration

The **Pure Water Technology PW90** uses a multi-stage RO filtration configuration for great tasting water.

Anti-Microbial Surfaces

The **Pure Water Technology PW90s** control panel is made of material with anti-microbial additives to maintain cleanliness.

Activated Oxygen Self-Cleaning

The **Pure Water Technology PW90** uses advanced technology to circulate ozone gas (O₃) through the water tanks and lines to keep them clean and maintain freshness.

Active TDS Monitoring

The **Pure Water Technology PW90** uses dual TDS probes that monitor the incoming and production water TDS levels to ensure great tasting water.

CERTIFICATIONS

PW90 Water Dispensers have been tested and certified to rigorous NSF and UL Standards. We believe that performance testing and certifications validate **Pure Water Technology** as a world-leader in Water Dispensers.

Pure Water Technology PW90 Component Certifications Include:



UL399 – Certified Drinking Water Cooler

Intertek Labs (ETL) Certified the **PW90 Water Dispenser** to ANSI/UL 399 Standard for Drinking Water Coolers.

CSA C22.2 No. 120 CSA Standard for Refrigeration Equipment

NSF / ANSI 372 – Drinking Water System Components – Lead Content

Drinking Water System Components for low Lead Content.

MODEL/PART DESIGNATIONS

BRAND NAME	DESCRIPTION	MODEL - PART NUMBER
<i>PW90</i>	<i>PW90</i> – Hot & Cold Tower	PW90-(R or M)
	90P(YYWW)A(#####) ex: 90P2233A00005	

CONSUMABLES

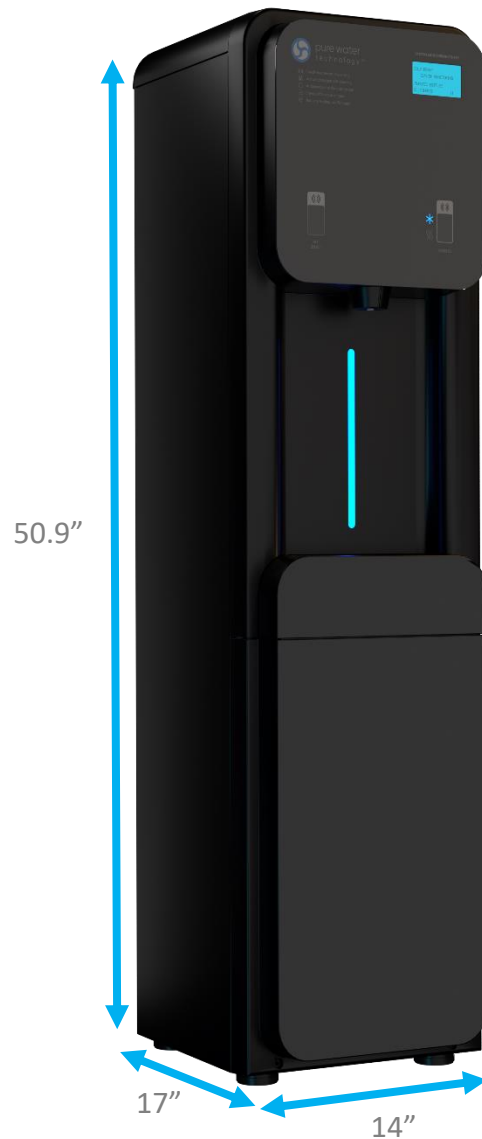
FILTER	REPLACEMENT FREQUENCY	PART NUMBER
SEDIMENT FILTER	6-12 MONTHS	EN1100-0001
POST-CARBON FILTER	6-12 MONTHS	EN1100-0007
RO MEMBRANE	TEST TDS REDUCTION AT 12 MONTHS	EN1100-0004
PRE-CARBON FILTER	6-12 MONTHS	EN1100-0002
BOOST FILTER (OPTIONAL)	6-12 MONTHS	EN1100-0011
AIR FILTER	3 YEARS	FE0049A

SPECIFICATIONS

ITEM	PW90
Water Connection	¼" Quick Connect
Recommended Service Water Pressure	60-70psi (4.2-4.9kgf/cm ²)
Rate Voltage	AC 120V/60Hz or 220V/50Hz
Power Consumption	1.1A (120W) Cold Water; 4.4A (300W) Hot Water; 5.5Amps Total
Power Cord	1.9m (6.3ft)
IP Class	IPX1
Climate Class	N Class (32°C +/- 1°C) (89.6°F +/- 33.8°F)
Safety Device	Overheating protector. Water Leak Detection. Leak Stop Device. Fuse.
Hot Tank Capacity	0.5gal (1.9L)
Cold Tank Capacity	3gal (11.4L)
Environmental Temperature	Max: 90°F (32°C) Min: 35°F (2°C)
Source Water Temperature	Max: 90°F (32.2°C) Min: 40°F(4.5°C)
Relative Humidity	55% at 78°F(25.5°C)
Refrigerant Gas	R134a (1.34oz +/-0.03oz)
R134a Pressures	250psi (17.2bar) High Side, 88psi (6.1bar) Low Side

SHIPPING SPECIFICATIONS

<u>ITEM</u>	<u>PW90</u>
Width/Depth/Height	356mm W x 432mm D x 1293mm H 14"W x 17"D x 50.9"H
Weight (dry)	70lbs (31.75kg)



RECEIVING YOUR EQUIPMENT

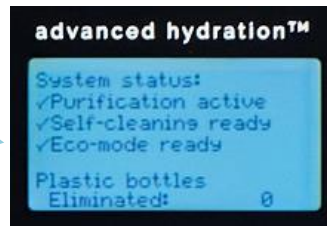
Upon receipt of your equipment, you should check the following:

1. Are the systems still on the pallet?
2. Confirm the number of boxes you are signing for.
3. Is there any obvious damage to the product or the boxes?

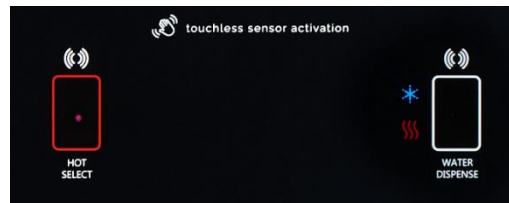
If there are any discrepancies or any obvious damage to the equipment or boxes, please note it on the “Bill of Lading” and/or refuse the shipment.

After receiving the equipment from the carrier, remove packaging and inspect for any hidden freight damage. If freight damage has occurred, call the freight company and customer service (800) 288-1891 to report the damage. Photograph all damages to be submitted with the claim. **THIS MUST BE DONE WITHIN FIVE BUSINESS DAYS OF DELIVERY.** If not reported within 3 business days, Pure Water Technology and/or carrier will not be responsible for replacement or repair.

CONTROL PANEL & OPERATING INSTRUCTIONS



- **Purification Active:** This message indicates all filters are working properly and efficiently.
- **Self-Cleaning Ready:** This message indicates the units Ozone cleaning mode is active and ready.
- **Eco-mode Ready:** This message indicates that Eco-mode is active and ready.



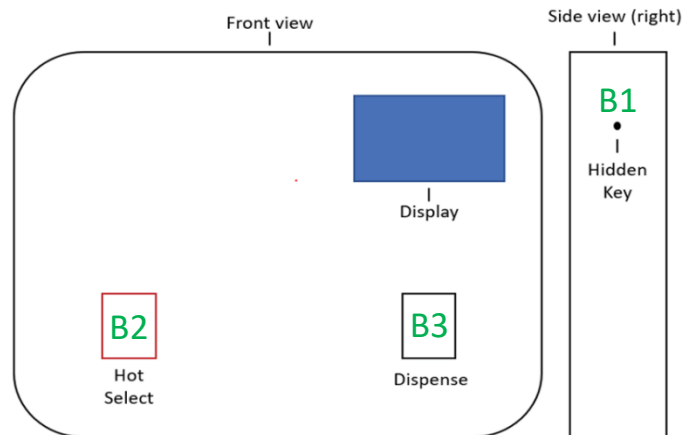
- **Hot Select:** This touch sensor is used to select the hot water option.
- **Water Dispense:** This touch sensor is used to dispense the selected water temperature (default is cold water). The Icons to the left of the sensor will illuminate the currently selected temperature.
- **Dispense LED:** The Dispense LED will illuminate blue for cold water and red for hot water.

PROGRAMMING AND MENUS

The **PW90 Water Dispenser** has an advanced digital output with several options for controlling the operation of the unit. This section will outline how to access and navigate these menus as well as give an explanation of each menu option.

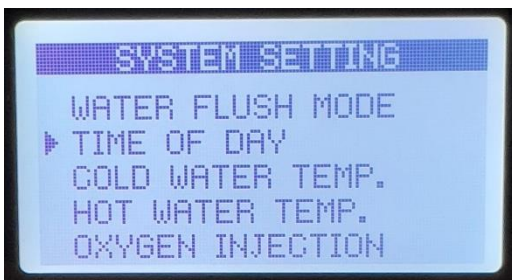
Accessing the Menu

- To access the menu, the Hidden Key (B1) button must be pressed. A paperclip can be inserted into the small hole on the right side of the display panel. A light click can be felt when the button is activated, then you will see the menu pop up on the display screen.
- Basic Navigation:** Take note of the diagram to the right. The Hidden Key (B1) can be used as a “return” to back out of menu options or return from the menu to normal operation. The Hot Select sensor (B2) can be used to scroll through options in a continuous loop, meaning it can only go to the next option and not the previous option. The Dispense sensor (B3) can be used to “select” or “change” an option.
- The **PW90** can also be programmed using a Dongle and an Android Device. This is covered in our **PW90 App Guide**, separate from this manual.



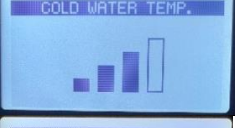
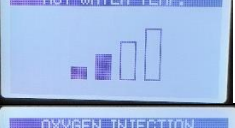
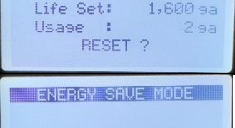
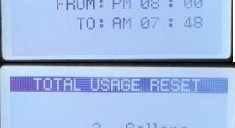
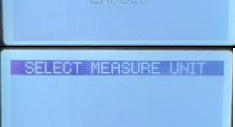
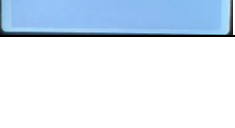
Menu Options

The following is an outline of the menu options and their functionality. An overview of the menu options will be shown first.



Programming Menu Options:

- Water Flush Mode
- Time of Day
- Cold Water Temperature
- Hot Water Temperature
- Oxygen Injection
- Filter Life Mode
- Filter Life Time Set
- Energy Save Mode
- Total Usage Reset
- TDS Monitoring
- Select Measure Unit

	Water Flush Mode	This mode allows the user to start a 7-minute flush operation. Water will be continuously dispensed from the cold tank via the dispense nozzle for 7 minutes.
	Time of Day	This option allows the user to set the date and time.
	Cold Water Temperature	This option allows the user to manipulate the temperature of the cold tank. (Higher setting = Lower Temperature)
	Hot Water Temperature	The option allows the user to manipulate the temperature of the hot tank. (Higher setting = Higher Temperature)
	Oxygen Injection	This option allows the user to turn enable/disable the oxygen injection feature, as well as manipulate when and for how long the feature runs.
	Filter Life	This option allows the life of the filters to be set in either volume or time.
	Filter Life Time Set	This option can be used to set the life in gallons of each individual filter. Life can be set in increments of 100 gallons, and the usage can be reset.
	Energy Save Mode	This feature can be enabled/disabled in this menu option, and the time at which the unit enters and exits this feature can be set.
	Total Usage Reset	This option can be used to reset the gallon and bottles saved counter.
	TDS Monitoring	This option can be used to enable/disable the TDS monitoring feature of the unit.
	Select Measure Unit	This option can be used to measure water volume in either gallons or liters.

PWT MANUFACTURED WATER DISPENSER LIMITED WARRANTY

The PWT PW90 is covered by the PWT Warranty for a period of 5 years from the date of purchase against manufacturer defects given the filtration is changed with PWT branded filters on the recommended schedule.

General Provision and Exclusions:

This warranty only applies in the fifty (50) United States and Canada. This warranty does not apply, and no agreement, whether written or implied, shall be applicable if the affixed serial number is removed, defaced, or obliterated. This warranty does not apply to the filters after exposure to water. Refer to service manual for filter requirements and expected performance. This warranty does not apply if parts used as original or replacement equipment, including filters, are not obtained, or authorized through PURE WATER TECHNOLOGY, and such unauthorized usage shall void this warranty. This warranty does not apply to any wetted parts that become inoperative due to lime, scale, or other water quality conditions. This warranty does not apply to any machine or components that become inoperable due to a failure by Dealer/Distributor or the end-user to satisfy standards or regulations adopted by any governmental agency. This warranty does not cover performance, failure or damages of any part resulting from external causes such as alterations, abuse, misuse, misapplication, neglect, accident, installation, operation contrary to printed material, corrosion or acts of God.

This warranty only applies to the operative components of the machine and does not apply to the exterior shell or frame to which the shell is attached and the appearance of the machine.

This warranty and any applicable industry certifications for this machine are automatically voided if the machine is altered, modified, or combined with any other machine, equipment, or device. Alteration or modification of the machine may cause serious flooding and/or hazardous electrical shock or fire. Except as set forth herein, PURE WATER TECHNOLOGY makes no other warranty, guarantee or agreement expressed, implied or statutory, including any implied of merchantability or fitness for a particular purpose.

The foregoing is in lieu of all other agreements expired or statutory and all other obligations or liabilities of PURE WATER TECHNOLOGY. PURE WATER TECHNOLOGY does not assume or authorize any person to assume any obligations of liability in connection with this product. In no event will PURE WATER TECHNOLOGY be liable for special, incidental, consequential, or punitive damages, or for any delay in the performance of this warranty agreement due to causes beyond its control.

Export Warranty:

The PURE WATER TECHNOLOGY export warranty shall apply to all area outside of the Continental limits of the United States and Canada. The export warranty shall mirror the domestic warranty set forth above in all respects except that a) the export warranty shall be limited to the Initial Term and there is no coverage for the additional warranty through the first year and b) the Dealer/Distributor shall be responsible for all transportation charges to implement the repairs.

ALL WARRANTY REPAIRS SUBJECT TO PRIOR APPROVAL BY PURE WATER TECHNOLOGYS SERVICE DEPARTMENT IN ORDER TO VALIDATE THAT THE DEFECTIVE COMPONENT IS STILL UNDER WARRANTY.

SERVICE REQUIREMENTS

⚠ WARNING! *Read and understand the contents of this manual before attempting to service the PW90 Water Dispenser. Failure to follow the instructions in this manual could result in death, serious personal injury, or severe property damage. Only trained and qualified technicians should attempt to install, maintain, or service Pure Water Technology Equipment.*

1. Visually inspect all electrical and water connections for signs of wear or damage.

⚠ DANGER! **HIGH VOLTAGE ELECTRICAL HAZARD.** *Unplug before inspection and service.*

⚠ WARNING! **ULTRAVIOLET RADIATION.** *Protect your skin and eyes against ultraviolet rays. Never look directly at an operating UV light. Disconnect before removing UV Lamp.*

⚠ CAUTION! **UV LIGHTS ARE HAZARDOUS.** *Lamps are considered Hazardous Waste and must be disposed of accordingly. Refer to Product MSDS sheet for details.*

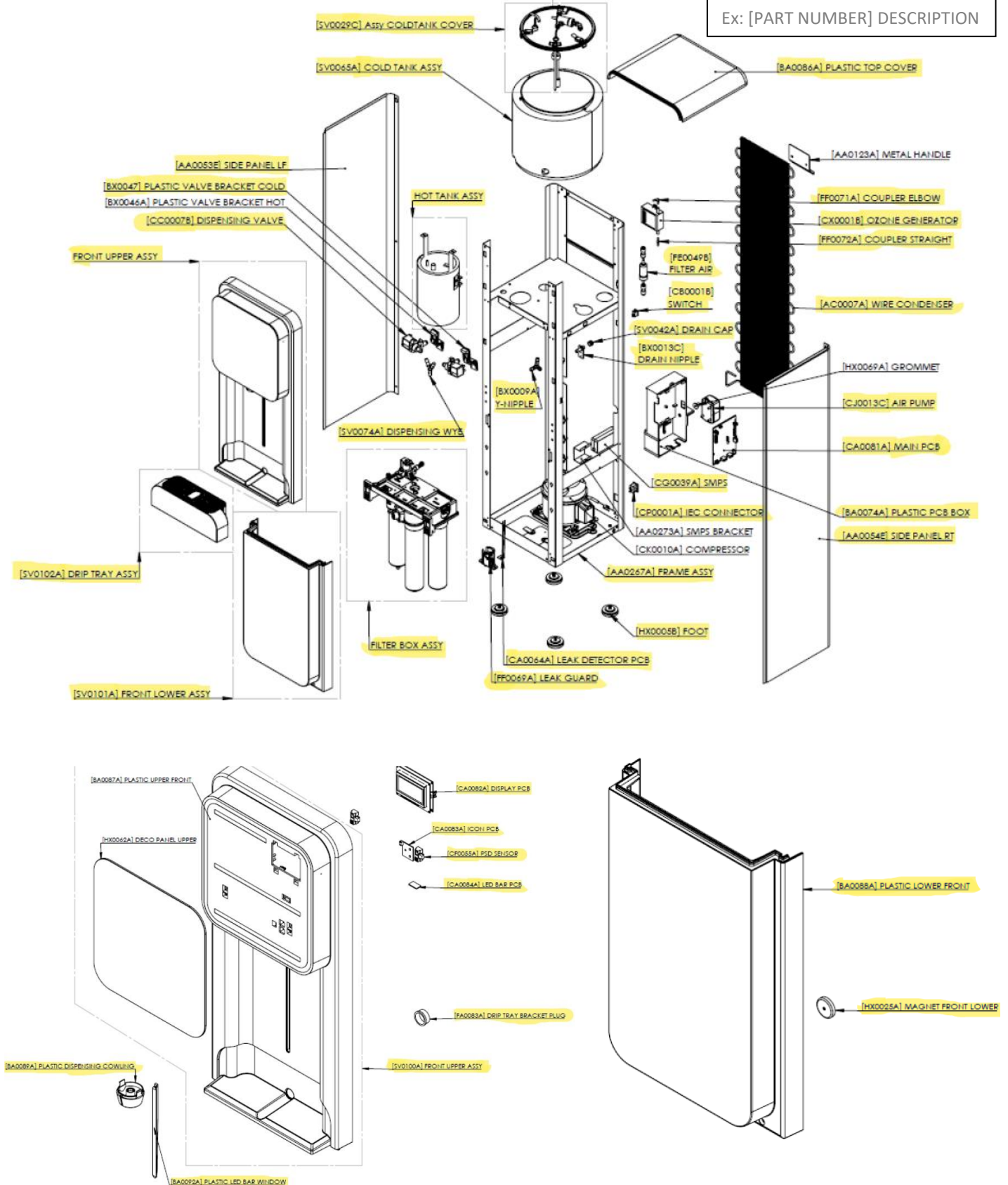
2. Ensure there is adequate (minimum of 5") clearance around the **PW90 Water Dispenser** and clean the condenser grill to provide efficient cooling system operation.
3. Sanitize the unit per instructions in the sanitization procedures.

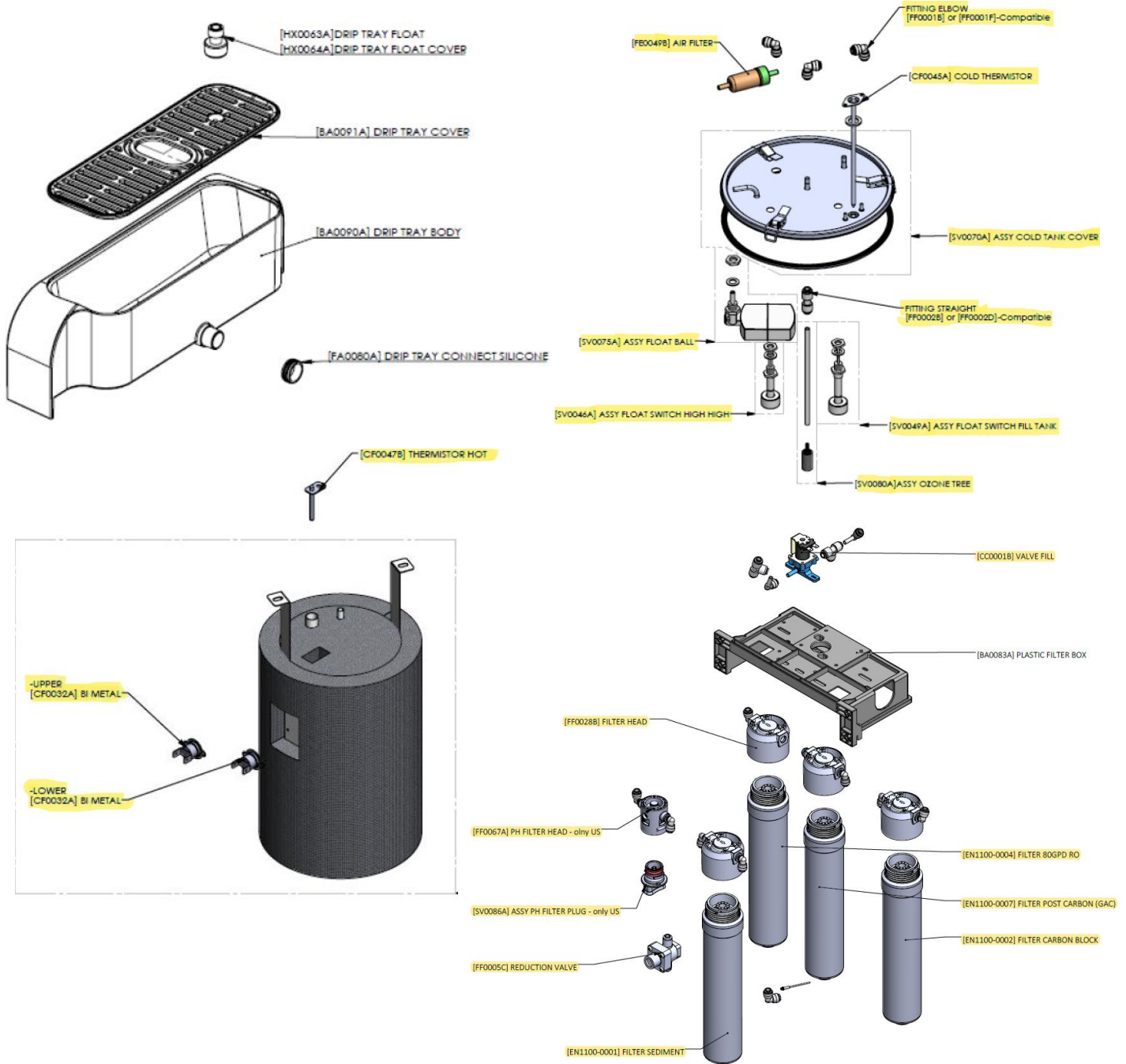
⚠ WARNING! **SANITIZER MAY CONTAIN HAZARDOUS CHEMICALS.** *Use of proper personal protective equipment such as rubber gloves and eye protection are required.*

4. Clean and sanitize external surfaces of the **PW90 Water Dispenser**. Use soap and water or chemicals that are compatible with ABS plastic and will not damage or degrade the product surfaces.
5. Remove and clean the Faucet. Replace as needed.
6. Flush in filters per instructions, and change filters on predetermined schedule, commonly every 12 months for standard filters.

PW90 PARTS DIAGRAM

Ex: [PART NUMBER] DESCRIPTION

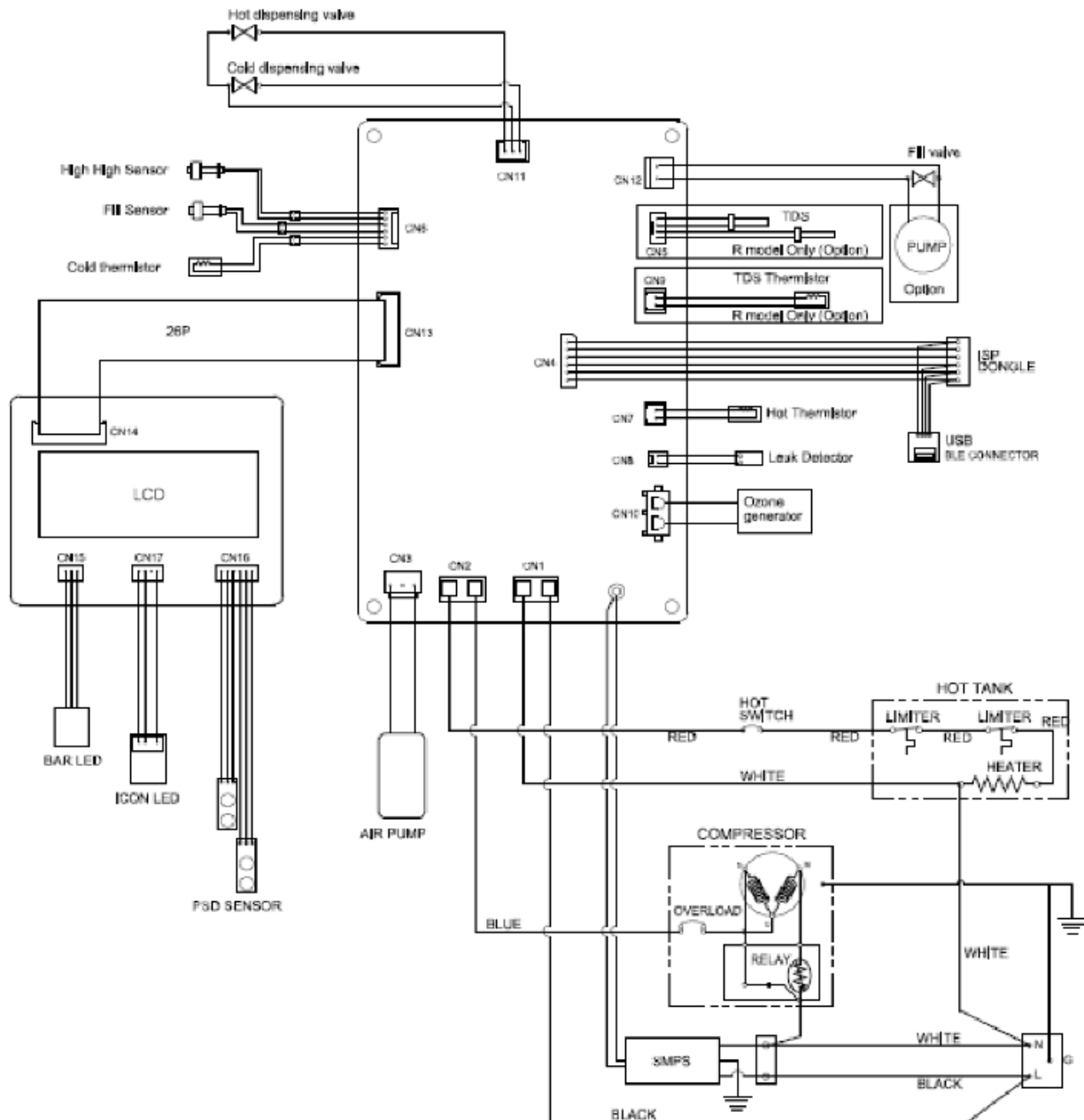






PW90 ELECTRICAL DIAGRAM

⚠ DANGER! *HIGH VOLTAGE ELECTRICAL HAZARD. PCB (Printed Circuit Board) contains High Voltage. Only trained and qualified technicians should attempt live testing.*



PRE-INSTALLATION



DANGER! ELECTRICAL SHOCK HAZARD.

*Only qualified personnel who have read and understand this entire manual should attempt to install, or service this **PW90 Water Dispenser**, failure to do so could result in death or serious injury. DO NOT plug into an electrical supply until specifically instructed.*



WARNING! ALWAYS SANITIZE BEFORE USE.

Sanitize before use to eliminate any potential microbiological contaminants.

Materials Needed:

- Personal Protective Equipment. Rubber or Nitrile Safety Gloves and Protective Eyewear
 - Phillips Screwdriver
 - Temperature Gauge
 - Water Pitcher or Container to collect water from the faucet
 - 5-gallon container or drain basin
 - Sanitizer - Household Bleach (5.25% Sodium Hypochlorite) or Citric Acid Based Cleaner
 - ¼" Plastic Tubing, at least 10 feet in length, and assorted ¼" quick connect fittings
 - TDS Meter and Test Strips for measuring chlorine – Optional
1. Unpack the **Pure Water Technology PW90 Water Dispenser** and check exterior for damage.



CAUTION! FILTER FLUSH REQUIRED.

PW90's Water Dispensers are supplied with filters. The frequency of filter changes depends upon your water quality and your water usage. For example, if there is a lot of sediment and/or particles in your water, then you will have to change your filters more frequently than a location with little to no sediment. Be sure to replace your filters whenever you notice a decline in the performance, whether it is a drop of flow rate and/or pressure or an unusual taste in the water.

2. Flush filters thoroughly per filter manufacturers' recommendation with fresh water to drain. More details provided in the **Filter Flushing** section further down.

NOTE: Filters should not be flushed prior to 24 hours before installation to limit Microbial Growth inside of filters.

NOTES ON INSTALLATION

1. Do not install the product at the following locations:
 - Near Fires
 - Near Flammables
 - In Humid Places
 - In front of air conditioners
 - Where exposure to rain or snow is possible
 - Outdoors or in direct sunlight
 - Near chemicals (volatile materials, organic solvents, etc.)
 - Near toilets
 - Anywhere the temperature may fall below 50°F.
2. Use source water within following quality range:
 - Water pressure: 50-70psi
 - Water temperature: 39-100°F (4-38°C)
 - Turbidity: 0.5 NTU or less
 - pH: 5.8-8.5
 - Hardness: 300ppm or less
 - Water Quality: Water quality meeting the Drinking Water Quality standard

*Please consult your distributor if source water quality is out of the specified range.

*The warranty will be void if the product is connected to source water that is out of the specified range.

*This product is not equipped with internal filtration. It is intended to be connected only to a potable water source.

3. When transporting the product, do not tilt it more than 45° from vertical.
*Severe tilting can cause a performance degradation.
4. Install the product on a flat surface and adjust the level of the unit using a level gauge.
*If the product is tilted more than 3°, overflow may occur.
5. Source water should not be above 100°F (38°C)
*Hot water may cause performance degradation or system failure.
6. Keep the sides and rear of the unit at least 5 inches (127mm) away from walls or other objects for ventilation.
7. Do not bend the source water or drain hose or place heavy objects on them.
*If either are blocked, the water will not flow smoothly to and from the unit, and may cause performance degradation.
8. Do not place any heating system near the rear of the unit.
9. The power supply, source water, and drain must be directly connected to the unit.

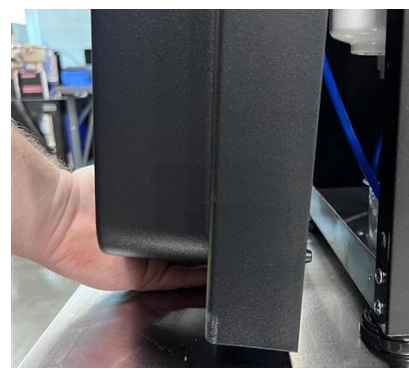
FILTER FLUSHING PROCEDURE

Before starting the installation, any filters being used to filter the source water for the unit must be flushed. This is important to rinse any loose carbon or debris from the filters so that it does not plug another filter or membrane or end up inside the unit. [DO NOT install and setup the unit before flushing the filters.](#)

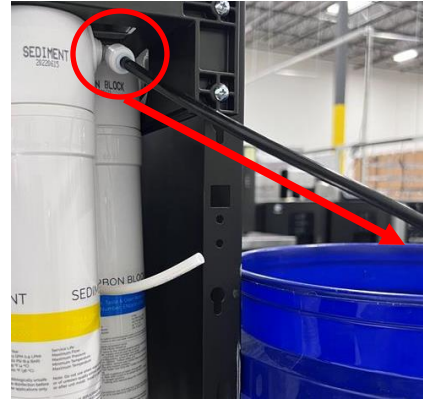
Whether the unit is paired with R (Reverse Osmosis) or M (Ultra filtration) filter configurations, there is a basic idea that applies to both: the filters, especially the carbon filters, must be flushed or “rinsed.” This section will cover how to do this process.

Regardless of the setup used, all sediment and carbon filters must have several gallons of water flushed through them to properly rinse the filter. The filters should be flushed in the same direction as flow.

1. To begin, you will need a ¼” LLDPE tube connecting the unit to a water supply, connected at the “Water In” port on the back of the machine. Install a ¼-turn valve just before the unit to easily turn the water on and off.
2. Have a bucket, pitcher, or sink ready to catch the flush water.
3. Remove the lower front panel of the unit. Two screws down at the bottom of the panel must be removed. Then, grip the bottom lip of the panel and pull outward. The panel should hinge outward, and then come away from the unit completely. Set this panel aside.



4. Locate the sediment filter (front and center) and look to the right side of the filter head. Disconnect the tube at the right side port of the sediment filter from the stem fitting as shown. With an extra section of ¼" LLDPE tubing (about 2-5ft long), plug this into the open port on the right side of the filter head, and run the other end to a bucket or drain/sink).



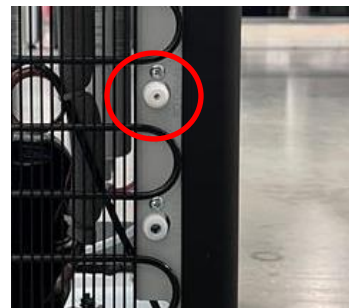
5. Open the ¼-turn valve on the supply line. Water will rush into the filter and exit from the outlet into the bucket/sink. Allow 2 gallons (roughly estimated) to flow out of the Sediment filter.
6. Once this is achieved, turn off the valve, disconnect the filter, and set it aside.
7. Remove the Pre-Carbon Filter and plug into the sediment head. Open the valve once more and flush 2 gallons through the filter. Shut off the valve.
8. Return the Pre-Carbon Filter to its head. Repeat this process for the Post-Carbon filter. By the end, all three filters should have been flushed thoroughly, except the membrane. **If a Boost filter is being used in the light blue auxiliary filter head, flush this filter in the same way.**



9. Return all filters to original position and restore original plumbing configurations. Ensure all tubing to fitting connections are tight and secure.
10. If M Filtration setup is being used, the system is ready to be used. The steps to follow outline the flush process if using the R Filtration setup.
11. Now, disconnect the tube from the outlet port of the light blue auxiliary filter head. Insert the flush tubing (used previously) into this port and run the other end to a drain or bucket.



12. Using ¼" LLDPE tubing, connect the RO Drain port on the back of the unit to a drain. Do this so that once water is running through the membrane, it will produce "brine" or reject water and expel it to the drain.



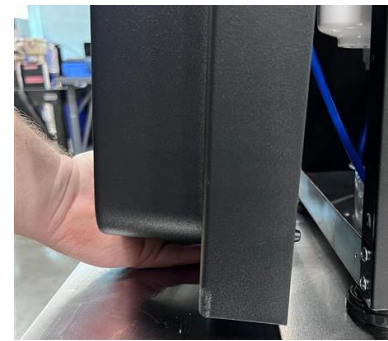
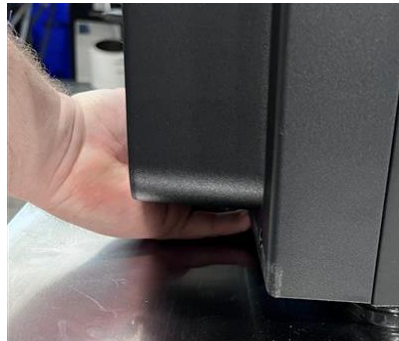
13. Open the water supply valve. Allow the system to make about 2-3 gallons of RO water. This will break in the RO membrane AND flush any preservative off the membrane. After the membrane has sufficiently flushed, shut the supply valve off. Disconnect the flush line and restore the tank supply line disconnected earlier. The system is now ready to be primed and installed.

INSTALLATION

Before starting the installation, any filters being used to filter the source water for the unit must be flushed. This is important to rinse any loose carbon or debris from the filters so that it does not plug another filter or membrane or end up inside the unit. [DO NOT](#) install and setup the unit before flushing the filters.

Once the filters have been flushed or “rinsed”, installation can begin. Listed below are the steps to properly install and begin use of the **Pure Water Technology PW90 Water Dispensers**.

1. To begin, you will need a ¼” LLDPE tube connecting the unit to a water supply, connected to the “Water In” port on the back of the machine. It is recommended to install a ¼-turn valve just before the unit to easily turn the water on and off. The **RO Drain port** should be connected using the same tubing to a drain connection.
2. If not already done during the filter flushing process, remove the lower front panel of the unit. Two screws down at the bottom of the panel must be removed. Then, grip the bottom lip of the panel and pull outward. The panel should hinge outward, and then come away from the unit completely. Set this panel aside. Turn the water to the unit on.



3. Check for any leaks on or around the filters and all connections. Check for any drips or puddles in the bottom of the unit. Ensure the leak stop puck is dry and not swollen and that the leak stop valve is firmly seated in the lowest position in the acrylic guide tube.
4. Turn the water to the unit on. Water will make its way through the filter system and up to the Cold Tank, and flow downward into the Hot Tank. The Hot Tank will fill first, and then the Cold Tank.

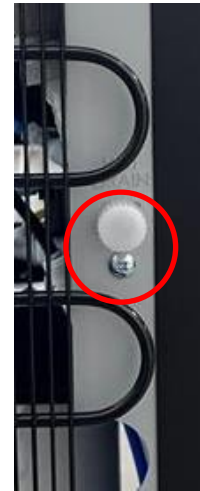


Leak Stop Puck

5. Remove the top cover. To do this remove the two screws at the back of the top cover, slide the cover backwards, and lift away from the unit. Shut off the water supply and remove the lid of the Cold tank.



6. Add the recommended amount of an approved sanitizing agent to the water inside the cold tank and gently mix. Allow this mixture to sit in the tank for at least 10 minutes. After 10 minutes has passed, position a bucket or large container under the white drain cap on the back side of the unit. Remove the cap to this drain port and allow the sanitizing agent and water mixture to drain into the bucket. With a pitcher ready, dispense cold water until the tank is empty.
7. Once the tanks have completely drained, cap the drain port, and open the water supply line to allow water to fill the tanks once more. Once full, open drain again and dispense cold water until the tanks are empty. Repeat this step one more time for a total of three flushes.



8. Cap the drain port and turn the water supply on. Place the tank lid back into position and allow the tanks to fill for the fourth and final time. Once the tanks are full, and using the sensors on the front panel (either touching or holding a hand close to sensor squares), dispense both hot and cold water to ensure flow from tanks.



9. Once flow from both tanks is verified, turn on the switch on the back of the unit labeled "Hot Switch". This will enable the hot tank functionality and begin heating the water in the hot tank.
10. Return any panels still off the unit to their original positions and reinstall the screws used to hold them in place. The unit is now ready for use. The hot water will need about 15-20 minutes to reach desired temperature, and the cold tank will need about 30-40 minutes to reach desired temperature. Move unit into final position, with at least 3" of clearance from walls on any side facing a wall.
11. Finally, perform a taste test of the water from the cold side. The water should be flavorless with no aftertaste. If any taste is detected, the unit may require more flushing of the tanks.
12. Take a TDS reading of the product water as well. TDS should fall around a 95% rejection rate of the incoming water supply for RO.
$$((\text{TDS Supply} - \text{TDS Product}) / \text{TDS Supply} \times 100 = \% \text{ Reduction})$$

There is no significant drop in TDS for standard carbon filtration. If, reduction is significantly less than 95%, the RO filtration system should be inspected for proper function.



PW90 PM GUIDE

PM (Preventative Maintenance)

To ensure proper function and effectiveness of a **Pure Water Technology PW90** unit, preventative maintenance must be performed on a timely basis, at a bare minimum of once per year but recommend at least every 3-6 months. PMs typically consist of filter changes but do also require hot tank descaling on a yearly basis, especially if not using RO filtration. The filter change schedule is listed below. **DO NOT run the filtration system in the unit before flushing the filters.**

PART NUMBER	FILTER TYPE	FILTER CHANGE FREQUENCY
EN1100-0001	SEDIMENT FILTER	6-12mo
EN1100-0002	CARBON BLOCK FILTER	6-12mo
EN1100-0007	GAC FILTER	6-12mo
EN1100-0004	RO MEMBRANE	12-24mo (If TDS Reject Rate falls below 90%, replace)
EN1100-0011	BOOST FILTER (OPTIONAL)	6-12mo
FE0049A	IN-LINE AIR FILTER	3 years

It is imperative to regularly change the filters on the Pure Water Technology PW90 unit. Changing the filters keeps the tanks clean and the water tasting fresh. Failing to change filters regularly can also cause premature degradation of RO filters, which can increase maintenance costs. **Refer to the filter flushing guide for the proper flushing procedure.**

Regularly sanitizing the cold tank and descaling the hot tank will also help to improve the water quality and prevent costly maintenance (or even replacement) of the hot tank. The sanitizing and descaling procedures are outlined below.

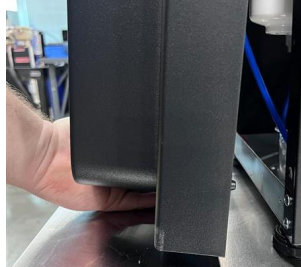
Sanitizing and Descaling

Sanitizing both the cold and hot tanks will help to prevent buildup of Bio-film and will ensure the best water quality and taste. **The procedure for sanitizing is the same for descaling**, the only difference being the solution used, either a **sanitizing agent** or a **descaling solution**. The sanitizing and descaling procedure is outlined below.

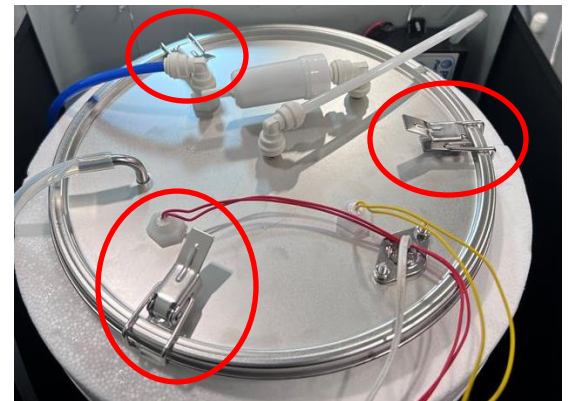
1. The unit should already be hooked up to a water supply and power supply and recently had new filters flushed and installed. Ensure the hot tank switch on the back of the unit is turned OFF. If these prerequisites are met, proceed.



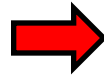
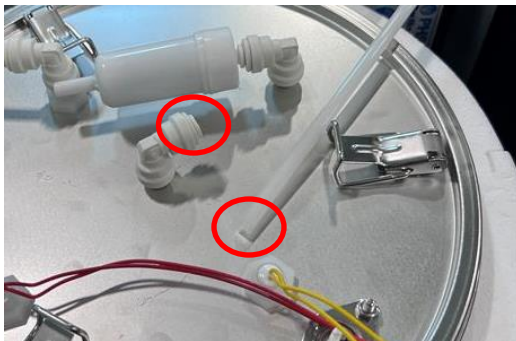
2. Remove the lower front panel of the unit. Two screws down at the bottom of the panel must be removed. Then, grip the bottom lip of the panel and pull outward. The panel should hinge outward, and then come away from the unit completely. Set this panel aside.



3. Remove the top cover. To do this remove the two screws at the back of the top cover, slide the cover backwards, and lift away from the unit. Shut off the water supply and remove the lid of the Cold tank. You will need to disengage the 3 buckles holding the lid down to open it.



14. Also, it usually helps to disconnect the ozone tube to allow the lid to pull away.



15. Add the recommended amount of an approved sanitizing agent OR descaling solution (but not both) to the water inside the cold tank and gently mix. Allow this mixture to sit in the tank for at least 10 minutes. After 10 minutes has passed, position a bucket or large container under the white drain cap on the left side of the unit, behind the lower front panel. Remove the cap to this drain port and allow the solution to drain into the bucket. With a pitcher ready, dispense cold water until the tank is empty.



16. Once the tanks have completely drained, cap the drain port, and open the water supply line to allow water to fill the tanks once more. Once full, open drain again and dispense cold water until the tanks are empty. Repeat this step one more time for a total of three flushes.
17. Cap the drain port and turn the water supply on. Place the tank lid back into position and fasten down the buckles and allow the tanks to fill for the fourth and final time. Once the tanks are full, and using the sensors on the front panel (either touching or holding a hand close to sensor squares), dispense both hot and cold water to ensure flow from tanks.
18. Turn the hot tank switch on the back of the unit to ON. Return the front lower panel and top panel to the unit and reinstall all fasteners. The unit is now ready for use, and the hot water will be up to temp within 15min.



FINAL INSPECTION

After installation and sanitization, verify the following:

1. There are no leaks or loose components.
2. The hot water is over 160°F.
3. The cold water is below 50°F.
4. Confirm acceptable product water flow.
5. If the system is not filling, then check the water supply and also make sure the leak stop has not been tripped. **The leak stop can be reset by removing the cap below the unit and draining the water out.*
6. Ensure the systems exterior is clean and all components are in place.

Other items to check:

1. Once the system has been flushed it should remain plugged in and water should, at a minimum, be dispensed occasionally. **Avoid storing in your vehicle or warehouse with residual water in the tank, this will result in a bad taste after installation.*
2. Always drain the system before moving it. It is not necessary to drain the hot tank completely if installing the same day. Leaving water in the hot tank will allow you to turn the hot tank on immediately after installation of the system but if left overnight may result in a taste complaint.
3. Never lay the system on its side.

PREVENTATIVE MAINTENANCE

The following is an outline of preventative maintenance that should be performed on yearly or semi-yearly basis to keep the unit running in top shape.

1. Change filters according to the filter change schedule. Always rinse new filters using the same procedure as the original filters.
2. Drain the system and use an approved cleaning agent to sanitize the system as outlined in the sanitization section.
3. Check all fittings for signs of scale or wear and replace as needed.
4. Check solenoids for proper function. Dripping solenoids should be replaced immediately.

Every 5 years, in addition to the above, perform the following:

- Replace all internal fittings and tubing.
- Replace solenoids.

SYSTEM INSPECTION

When changing filters or performing service, the following items should be completed:

- Visual Inspection
- Hose & Fitting Inspection
- Electrical Inspection
- Pressure and Flow Test
- Clean the exterior of system and condenser coils on rear of system.
- Temperature Check (Cold water should be below 50°F, Hot water should be above 160°F)
- TDS Check
- Hot Tank Switch On
- Site Cleanup

WARRANTY PROCEDURE

Procedure for PW90 warranty evaluation:

Contact PURE WATER TECHNOLOGY technical support and provide the following information:

- Serial number
- Failure
- Full details around failure
- Water pressure into the system
- Tap TDS
- TDS out of the cold and hot tanks
- Pictures

Depending on the situation, technical support may request more information. Upon approval, PURE WATER TECHNOLOGY will process warranty credit or replacement part to be fulfilled

TROUBLESHOOTING

PW90 Error Codes

Code No	Reference	Resolution
01	Cold Sensor Open	Check Cold Sensor connection; Replace Sensor
02	Cold Sensor Short	Replace Sensor
03	Hot Sensor Open	Check Hot Sensor connection; Replace Sensor
04	Hot Sensor Short	Replace Sensor
05	Ozone Pump Error	Replace Ozone Pump
06	Ozone Generator Error	Replace Ozone Generator
07	Tank Over-fill	Inspect Floats inside tank and solenoids
08	High TDS	Check Membrane Filter Production; may need replacement.

Troubleshooting

1. **No Power, Panel not Lit.**
2. **Cold Water is not Cold**
3. **Hot Water is not Hot**
4. **No or Low Flow of Water**
5. **Overfill of Cold Tank**
6. **Operation Sensors are Unresponsive**
7. **Ozone Taste in Water**
8. **Leak Detection**
9. **Filtration**

1. No Power, Panel not Lit

Possible Reason	Solution
Power Cord Disconnected	Ensure the power cable is properly plugged into the wall power outlet.
Tripped GFCI	Reset GFCI outlet.
Blown Fuse	Check Fuse at the rear of unit where the power cable connects.

2. Cold Water is not Cold

Possible Reason	Solution
Cold Thermistor Fault	Replace Cold Thermistor.
Compressor Failure	Check temperature of compressor and report your readings to technical support.

3. Hot Water is not Hot

Possible Reason	Solution
Hot Tank Thermostat Failure	Hot Tank Thermostat has tripped and will need to be reset.
Hot Switch is Off	Switch on back of machine has been switched off. Switch it On.
Hot Tank Thermistor Failure	Inspect Hot Tank Thermistor in Diagnostics.

4. No or Low Flow of Water

Possible Reason	Solution
Source Water Turned Off	Make sure the source water feed is turned on.
Clogged Filter	Check flow individually from each filter to ensure flow. Replace any filter with reduced flow.
Solenoid Clog or Failure	Check dispense solenoids for proper function. May need to be disassembled to remove blockage, or replaced if failed.

5. Overfill of Cold Tank

Possible Reason	Solution
Mechanical Float Failure	Check function of fill float on underside of tank lid. When the float lifts, it should choke water flow to zero. If not, replace.

6. Operation Sensors are Unresponsive

Possible Reason	Solution
Power Failure	Check power at outlet, and check fuse on the back of unit.
Sensor Failure	Ensure sensor has not disconnected from PCB. Ensure front panel protective film has been removed from the unit. If sensor is still unresponsive, replace them.

7. Ozone Taste in Water

Possible Reason	Solution
Ozone Cycle is running too long	Change the settings for runtime of ozone process on PCB using dipswitches.
Ozone cycle is running too close to heavy use	Change the time of day the ozone process runs by using the dipswitches on the PCB to set delay, then disconnect and reconnect to power

8. Leak Detection

If water leaks into the bottom tray of the unit, two things will happen. **First**, the leak stop will be tripped and the water supply to the unit will be shut off. **Second**, the leak detection in the bottom tray will signal a leak alarm. The front panel screen will display “**LEAK DETECTED**” (shown to right) and a constant audible beep will sound until the power is disconnected and the water in the bottom pan is dried up.



To correct this, any leaks must be found and properly repaired/corrected. Then, any water in the bottom tray must be dried up. Once there is no moisture in the bottom tray, cycle the power on the unit to reset the leak detection. Then, the absorbent puck underneath the leak stop valve must be replaced. **Ensure** that there is no moisture at the bottom of the puck cup. Then, push the leak stop valve down into the cup until it clicks into place.

9. **Filtration**

It is recommend using RO where possible and almost always if TDS from the tap is greater than 150 PPM. For an RO to work properly it is very important that the following variables are addressed and performed properly.

- Incoming Water Pressure: RO's require 60-70psi to work properly.
- Lower PSI will cause the reduction in TDS to suffer greatly, as well as the recovery rate.
 - 60psi results in (roughly) 7.3oz/min from 80GPD membrane
 - 40psi results in (roughly) 2-3oz/min from 80GPD membrane
 - 60psi results in (roughly) 98% reduction of TDS from the RO
 - 40psi results in (roughly) 80-85% reduction of TDS from the RO
 - Example:
 - 500 Tap TDS at 98% reduction = 10TDS product water
 - 500 Tap TDS at 85% reduction = 75TDS product water
 - 500 Tap TDS at 80% reduction = 100TDS product water
 - With the mineral add back filter a high concentration of calcium will negatively impact the amount of scale that will, as a result, negatively impact ice systems.
 - When using a bladder, this is much more susceptible to manifesting itself as a problem.
 - As the bladder pressure pushes back on the filter, lower pressure will reduce recovery even beyond the above stated levels and will be unable to properly fill the bladder.
 - This will also result in burning through pre filters as it will take much more water to make little product water.
 - Signs of this issue in gravity fed tanks will be manifested mostly through form of taste complaints, in this system it will manifest itself as running out of water prematurely.

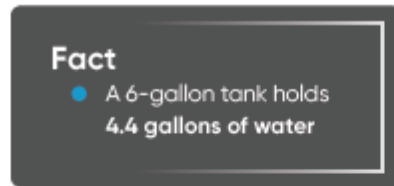
Solutions for Low Water Pressure:

- Add a Booster Pump
- Use Carbon Filtration (be sure to remove the mineral add back filter)

Bladder Tanks:

- It is important that the right size bladder tank be used in conjunction with sufficient flow.

- It is ALSO important that the bladder tank be set to the correct pressure.



- Increasing air pressure will reduce the water capacity while also increasing water pressure
- Decreasing air pressure will increase the water capacity while also decreasing water pressure
- With no air the water tank will be full, but there will be no pressure to release water



Bladder Tank Water Pressure Changes

Bladder tanks have fluctuating water pressure as they empty. This may impact the flow rate going to the system as the tank is depleted.

- The amount of bladder tanks, filter banks feeding the bladder, pressure, and if a booster pump are needed must all be considered for install requirements. No two accounts are the same and usage will greatly impact the decision. If you have a large bladder tank installed and you have reports of no water, please revert to the above section on how to check to see if water flow is an issue.
- For large usage account with larger bladders, it may be necessary to have additional filter banks to improve the recovery time.
 - Please note that when doing this a booster pump may become necessary even if there a tap pressure of 60psi.
 - Failure to take this into consideration may cause the bladder to ineffectively fill due to pressure drop with multiple units in line which mainly manifests itself as the larger bladder tanks get closer to filling
 - This will also result in burning through pre filters and using a lot of water that will ultimately be just sent down the drain

Please see below for recommended air pressure that should be in the bladder depending on size of the bladder.

Size	Part Number	Size	Recommended Air Pressure
4 Gallon	EQGENE-0004	11" (Diam.) x 14" (Height)	6-7 psi
14 Gallon	EQGENE-0014	15" (Diam.) x 23" (Height)	6-7 psi
20 Gallon	EQGENE-0020	16" (Diam.) x 29" (Height)	7-10 psi
32 Gallon	EQGENE-0032	21" (Diam.) x 28" (Height)	7-10 psi
44 Gallon	EQGENE-0044	21" (Diam.) x 37" (Height)	10-15 psi
85 Gallon	EQGENE-0085	26" (Diam.) x 45" (Height)	10-15 psi
120 Gallons	EQGENE-0120	26" (Diam.) x 60" (Height)	10-15 psi

Code No	Reference	Resolution
01	Cold Sensor Open	Check Cold Sensor connection; Replace Sensor
02	Cold Sensor Short	Replace Sensor
03	Hot Sensor Open	Check Hot Sensor connection; Replace Sensor
04	Hot Sensor Short	Replace Sensor
05	Ozone Pump Error	Replace Ozone Pump
06	Ozone Generator Error	Replace Ozone Generator
07	Tank Over-fill	Inspect Floats inside tank and solenoids
08	High TDS	Check Membrane Filter Production; may need replacement.