



Service Manual PW90

(Sani-TwistTM Filter Manifold)







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CONDITIONS FOR USE

CAUTION

DO NOT USE WITH WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM

THIS DRINKING WATER SYSTEM IS FOR USE ON POTABLE COLD WATER SUPPLIES ONLY

Source Water Supply

Municipal/Private: Potable Water Supply

System Pressure: 25~100 PSIG (173~690kPA)

Temperature: $40^{\circ} \sim 100^{\circ} F (4^{\circ} \sim 38^{\circ} C)$

Warning

A pressure regulator must be installed before the system water inlet if the water pressure or any possible pressure spikes could exceed 100 PSIG (690kPA) Failure to comply will void all warranties. The manufacturer accepts no liability for and damage caused by excessive water pressure.

Environmental Conditions

System should be installed in areas that are protected from severe environmental conditions. System is not manufactured or approved for installation in areas that are exposed to direct sunlight, rain/snow and/or extreme temperature variation.

Compliance

Installation and service must be performed by qualified personnel to ensure compliance with all applicable local, state, federal and international codes.

Note

Always check applicable plumbing codes before tapping into a water or drain line.





SYSTEM OVERVIEW

The PURE WATER TECHNOLOGY PW90 is available in two filter configurations:

- 1. **PW90R** This PURE WATER TECHNOLOGY model filters your water through a series of filters and an RO membrane to remove contaminants. These are:
 - A. A 5 micron sediment filter (P/N 1100-0001)
 - B. A 1 micron pre-carbon block filter (P/N 1100-0002)
 - C. An 80 gallon per day RO membrane (P/N 1100-0004)
 - D. A Granular Activated Carbon (GAC) filter (P/N 1100-0007) After the water has been filtered its "Freshness" and biological integrity is maintained by periodic in-tank ozonation.
 - E. Deep clean and Auto circulation freshness cycle are also available when installed with an active drain to help maintain a clean tank and fresh water for best possible taste.
- 2. **PW90M** This PURE WATER TECHNOLOGY model filters your water through the following filters.
 - A. A 5 micron sediment filter (P/N 1100-0001)
 - B. A 1 micron pre-carbon block filter (P/N 1100-0002)
 - C. A Lead and Cyst carbon filter (P/N 1100-0003)

 After the water has been filtered its "Freshness" and biological integrity is maintained by periodic in-tank ozonation.
 - D. Deep clean and Auto circulation freshness cycle are also available when installed with an active drain to help maintain a clean tank and fresh water for best possible taste.





RECEIVING YOUR EQUIPMENT

A common carrier will be delivering your PURE WATER TECHNOLOGY product. The equipment will be palletized with 6 systems to a pallet. Upon receipt you should check the following.

- 1. Are the systems still on the pallet?
- 2. Count 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 obvious damage to the equipment or boxes, please note it on the "Bill of Lading" and/or refuse 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 PURE WATER TECHNOLOGY customer service (855-474-7934) to report the damage. Photograph all damages to be submitted with 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.





Safety Precautions

Warning:

Do not install or use this drinking water system where the source water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the system.

Warning:

A pressure regulator, such as a slow flow regulator, must be installed before the systems water inlet if the water pressure (including any possible spikes) could exceed 100 P.S.I.G. (690kPA). Failure to comply will void all warranties. The manufacturer accepts no liability for damage caused by excessive water pressure.

Warning:

These systems are manufactured with 134A refrigerant. Repairs to the refrigeration system must be performed by a certified refrigeration technician only.

Warning:

To prevent damage fire or shock hazard, do not expose this system to rain or other extreme elements.

Power System:

Available in operating voltages of 120 V 60 Hz, 100 V 50/60 Hz, 230V 50 Hz.





SAFETY PRECAUTIONS (continued)

Caution:

To prevent electric shock and fire hazards, do not use with other than specified power source.

Changes or modifications not approved by PURE WATER TECHNOLOGY will void any product warranty.

Use appropriate plug adapter for your AC wall outlet.

If system begins to leak, unplug, turn off water supply and call service center immediately.

Before moving the system, disconnect power supply and wait for water to reach ambient temperature before draining.

Hot water is extremely hot! Do Not dispense hot water to hands directly.

► Hot water may cause serious injury.

If system will not be used for an extended period of time (5 days or longer), drain the system completely. Sanitize system prior to re-use.

Should the system not perform as specified, unplug, turn off water supply and call the service center.

Do not place any type of water container or heavy item on top of the system.

► Water may leak into the electrical system causing a fire hazard. Heavy items may fall off causing injury.





PRE-INSTALLATION PREPARATION

All systems must be properly flushed and inspected prior to being installed. Follow the procedures below to insure proper operation.

Filter Flushing Procedures for

PURE WATER TECHNOLOGY "Sani-TwistTM" Filter Configuration

All filters and RO membranes must be flushed sufficiently prior to installation.

Note: The ball valve located on the filter box will turn off the water to the filters and RO membrane. Turn to closed position before removing filters. Remember to open the valve after replacing filters to turn the water back on.

Flushing the PW90 RO

- 1. Install the supply water line to "Water In" bulkhead and water drain line to "RO Drain" bulkhead in back of unit.
- 2. Do not plug the system into the AC socket. (No Power)
- 3. Remove lower front panel to access filters. To remove, grip bottom of lower front panel and pull to disengage magnets.
- 4. Remove the sediment, carbon block and post carbon filters and flush on a preflush station.
- 5. Reinstall the sediment and carbon filters in their original places.
- 6. Disconnect the red restrictor line from the elbow at the base of the RO membrane. From this elbow run a water line to drain.
- 7. Turn on the water to the filters, plug the system in and let the water run for 2 minutes.
- 8. Turn off the water to the filters, wait one minute and then replace the red restrictor line into the elbow at the base of the RO membrane.
- 9. Filter flushing is now complete.
- 10. Replace lower front panel.





Flushingthe PW90 MFilters

- 1. Install the supply water line to "Water In" bulkhead a.
- 2. Do not plug the system into the AC socket. (No Power)
- 3. Remove lower front panel to access filters. To remove, grip bottom of lower front panel and pull to disengage magnets.
- 4. Remove the sediment, carbon block and Lead and Cyst filters and flush.
- 5. Reinstall the sediment and carbon filters in their original places. Filter flushing is now complete.
- 6. Replace lower front panel.

FLUSHING THE COMPLETE SYSTEM

During the following steps you should be checking for any leaks, loose fittings, hot water, cold water and production rate. See next Section-Final inspection.

- 1. Turn the water to the system on, plug the system in and let the reservoir fill. RO systems will fill in one to two hours. Filtration (M) system will fill in 5 to 10 minutes.
- 2. Press dispense buttons to verify flow from hot and cold tanks.
- 3. Drain cold water into container using the dispense nozzle. Press cold dispense button until water flow ceases or refer to programming section regarding system flush mode.
- 4. Located on the rear of the system is a hot tank drain. Holding a bucket under the drain, remove drain cap and allow the system to drain until water flow stops. Replace drain cap.
- 5. Repeat steps 1 through 4.
- 6. Allow system to fill.
- 7. Turn hot switch located on back of unit to "ON" position.
- 8. Allow unit to sit for 4 hours to reach optimal operating temperature.

PW90 System Programming: Please refer to the LCD programming guide or Application programming guide.





FINAL INSPECTION

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
 - A. PW90 R systems- Average tank fill for RO systems is 2 hours.
 - B. PW90 M systems- Average tank fill for filtration systems is 10 minutes.
- 5. The system exterior is clean and all components are in place.

OTHER ITEMS

- 1. Once a system has been flushed it should remain plugged in and water dispensed occasionally.
- 2. Always drain the system before moving it. It is not necessary to drain the Hot Tank completely through the rear Hot Tank drain. Leaving water in the Hot Tank will allow turning on the Hot Tank immediately after installation of the system.
- 3. Never lay the system on its side.





INSTALLATION PROCEDURES

WARNING: Maximum water pressure (including any potential pressure spikes) of the water supply line to the system must not exceed 100 PSIG (690 KPA). Failure to comply will void the warranty. The manufacturer accepts no liability for damage caused by excessive water pressure.

- Once the unit and filtration system flushing procedures are complete, determine the best installation location. Consider user convenience, electrical access and water access. The unit performs optimally if within 20 feet of a cold-water supply line. Connect only to a cold water supply. Do not install Feed Water Assembly on the Hot Water Line. Do not place unit where it will be exposed to rain, freezing temperatures or direct sunlight.
- 2. The rear of the unit should be installed at least 2" (5 cm) from any vertical surface to ensure proper air circulation.
- **3.** Always check local plumbing codes before tapping into water supply line and drain line. Tap into the supply line with an approved connector.
- 4. Use only ¼" OD copper or plastic tubing to connect your water supply and drain to the cooler water inlet and drain port. The inlet and drain ports are quick connect fittings. Units are shipped with plugs in each fitting. Remove the plugs prior to inserting water supply and drain lines. A water shut off valve is recommended between the inlet connection to the cooler and the water supply connection.
- **5.** The PW90 RO system requires a waste or drain line for the RO membrane. The drain line should include an Air Gap and back flow restrictor. See diagram.
- 6. Check the available power supply to assure proper electrical service. In the U.S., the voltage specification is 115 volt 60 hertz. Voltage outside of this specification will affect the system performance
- 7. Water filtration system will begin operating, verify proper water production.
- 8. Turn the Heating System switch on the back of the unit to the "ON" position.
- 9. Perform final inspection of all installed water lines to ensure a leak free installation.
- 10. Instruct user on proper system operation.

To Dispense Cold Water:

Allow at least 30 minutes for adequate cooling, then press the Cold Water button.

To Dispense Hot Water:

Allow at least 30 minutes for adequate heating, then press the two Hot Water Buttons simultaneously

NOTE: Check UPC and Local Plumbing Codes to confirm that all connections are in compliance.



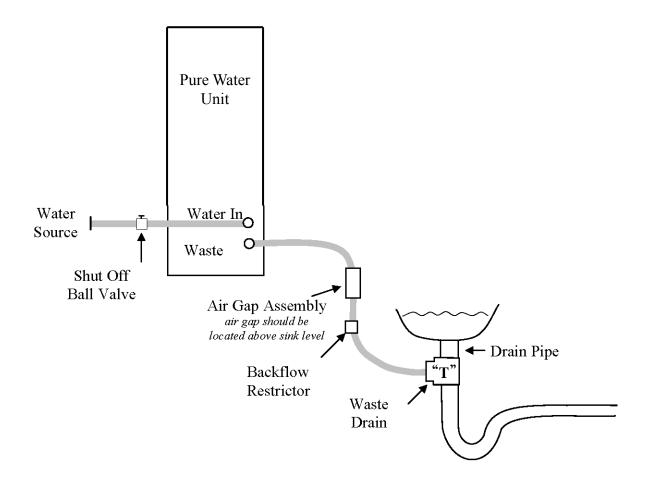


INSTALLATION PROCEDURES

WARNING: Maximum water pressure (Including any possible pressure spikes) of the water supply line to the unit must not exceed 100 P.S.I.G. (690 KPA). Failure to comply will void the warranty. The manufacturer accepts no liability for damage caused by excessive water pressure.

- 1. Determine the best installation location considering customer preference, electrical outlet, water line access, and if applicable, drain locations. The system must have 2" clearance from the wall.
- 2. In most cases the water supply will be located under a sink that has a 3/8" <u>cold</u> water line. Install a compression (3/8"X3/8"X1/4" tube) fitting on the <u>cold</u> water line above the shut off valve. See diagram below. **Do not install Feed Water Assembly on the Hot Water Line**.
- 3. The PW90 systems require a waste or drain line for the RO membrane. The drain line should include an Air Gap and back flow restrictor. See diagram.

NOTE: Check UPC and Local Plumbing Codes to confirm that all connections are in compliance.



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Filter Changing Procedure

- 1. Verify filter configuration required for servicing. Flush the appropriate filters prior to installation using a filter pre-flush station. Protect flushed filters from extreme cold temperatures and potential sources of contamination.
- 2. Dispose of replaced filters in accordance with local laws. Filter housings may be recycled after removing filtration media.
- 3. Periodic replacement of the air filter is required. This should be done a minimum of every two years.

System Inspection

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

- 1. Visual Inspection
- 2. Hose & fitting inspection
- 3. Electrical inspection
- 4. Pressure & flow test
- 5. Filter monitoring system reset
- 6. Gallon counter reset to zero. Refer to procedure below.
- 7. Clean the exterior of system and condenser coils on rear of system.
- 8. Temperature check (Cold water should be below 50°F, Hot water should be above 160°F)
- 9. TDS check
- 10. Hot tank switch On
- 11. Site clean up





Filter Light Reset-

- 1. Use a paper clip to access the hidden key on the right side of the upper front panel.
 - a. Hidden key is 1" inside the hole.
- 2. After pressing the hidden key a list of settings will come up.
 - a. Wave your hand in front of the hot sensor until the cursor is over "Filter life time set"
- 3. Wave your hand over the cold button sensor to enter this setting.
- 4. Wave your hand over the hot button sensor until the cursor is resting on "Reset?"
- 5. Wave your hand over the cold sensor button to erase filter
 - a. Notice gallon counter goes to 0.
- 6. To go to the next filter page wave your hand over the hot sensor.
- 7. Repeat steps 3 through 6 for all filters that need to be reset

A full set of instructions with images can be found on the full "LCD "Programming Guide" or through the "Application Programming Guide".





Part Diagrams

- 1. Electrical Wiring Diagram
- 2. PCB Diagram (Main and Display)
- 3. Water Flow a. PW90 b.

PW90

- 4. Exploded View
 - a. Cold Tank Assembly b. Hot

Tank Assembly c. Filter Box

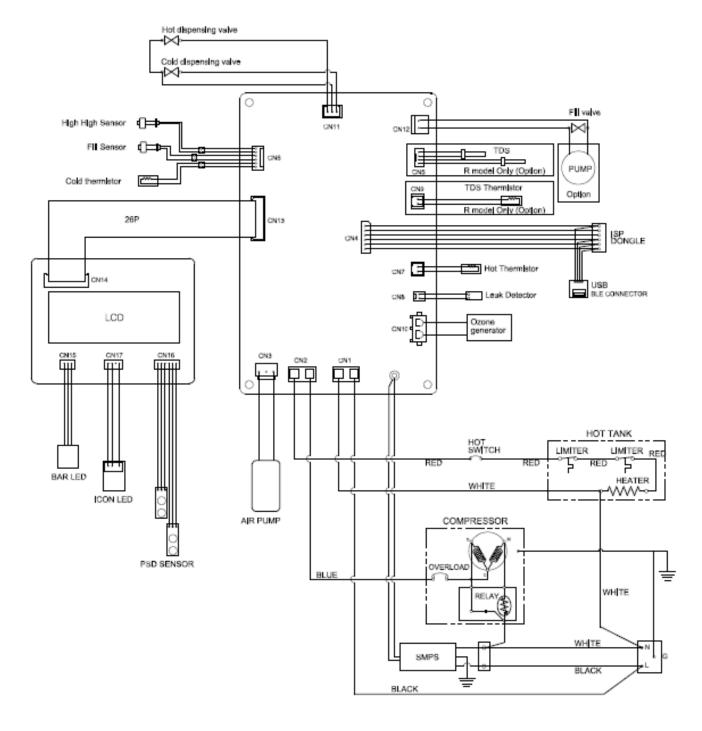
Assembly

d. Front Upper Assembly





WIRING DIAGRAM PW90

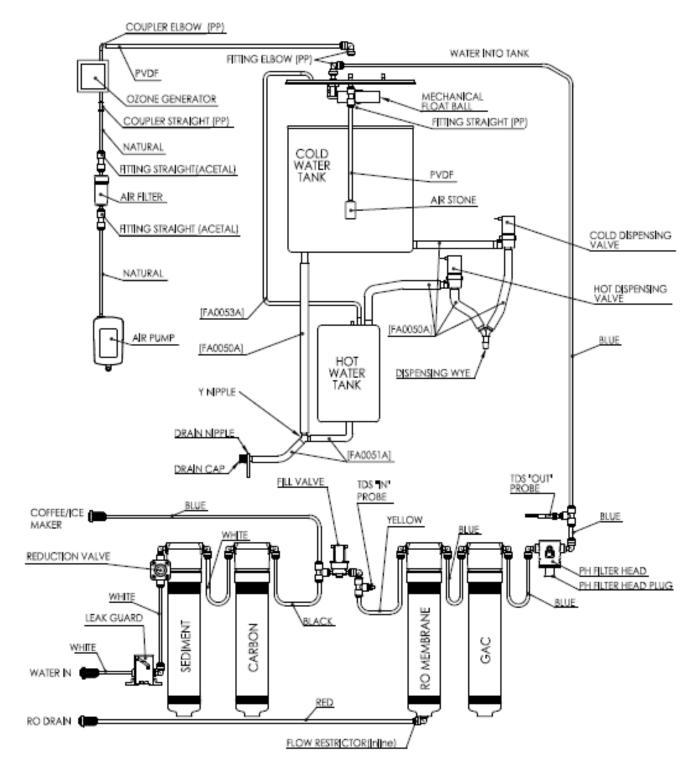


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WATER FLOW PW90-R

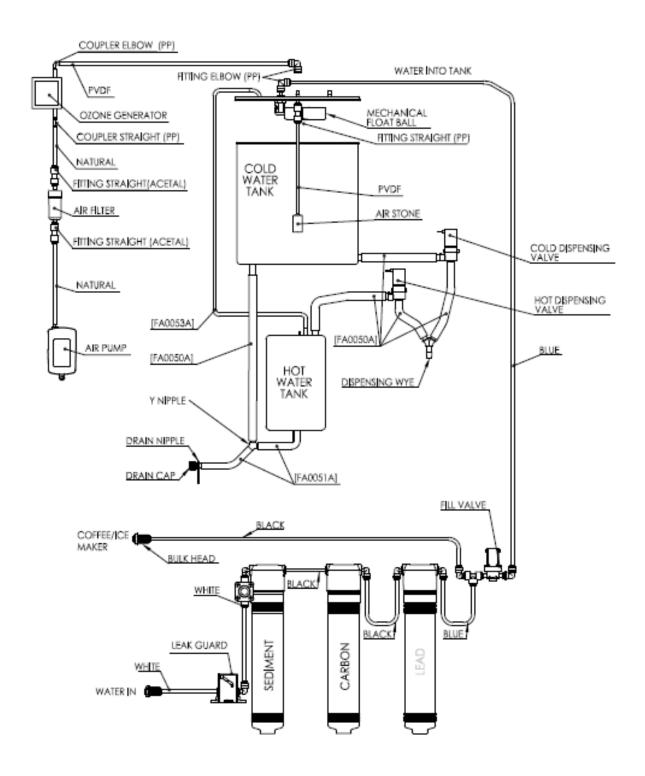


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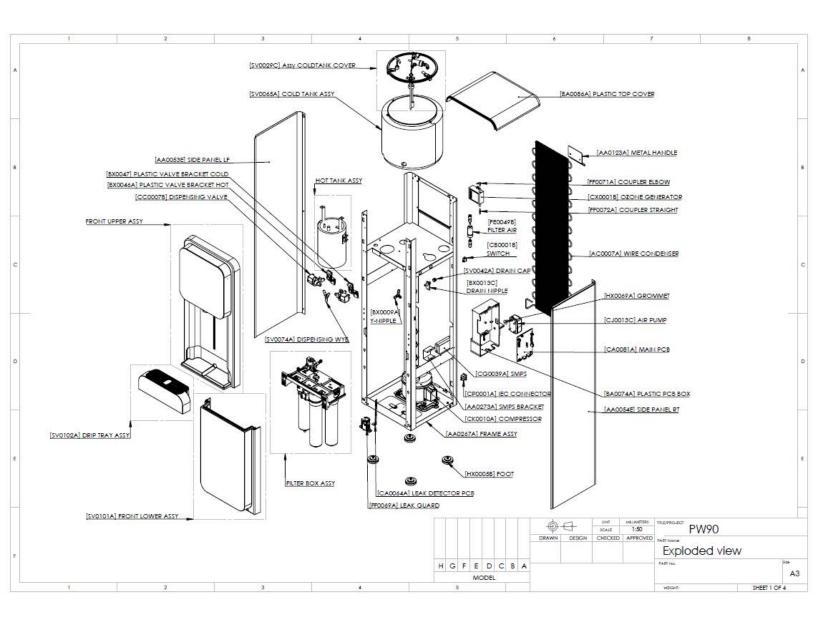
WATER FLOW PW90-M



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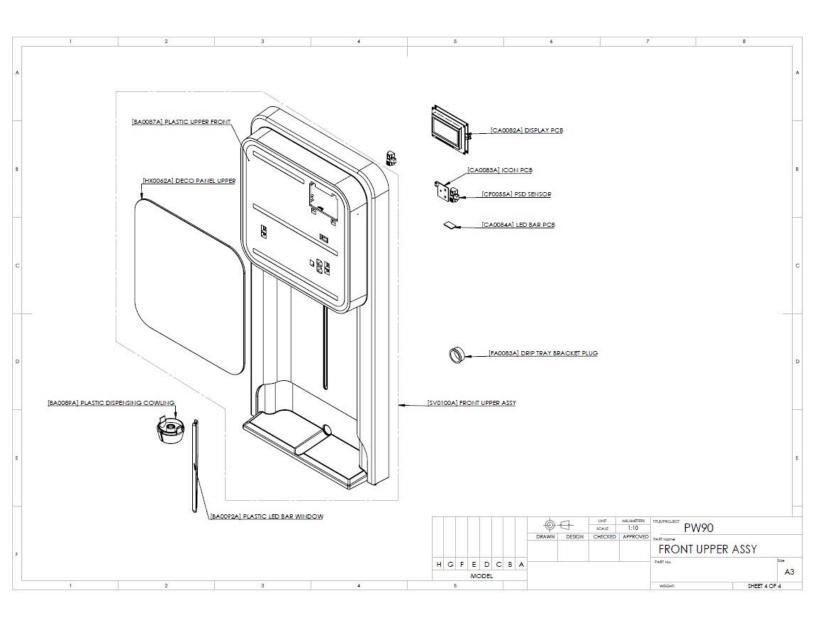






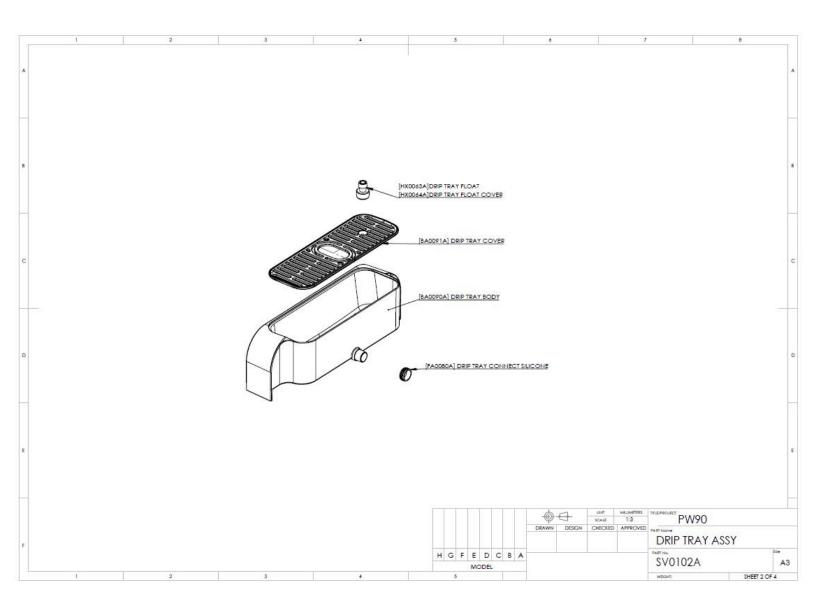






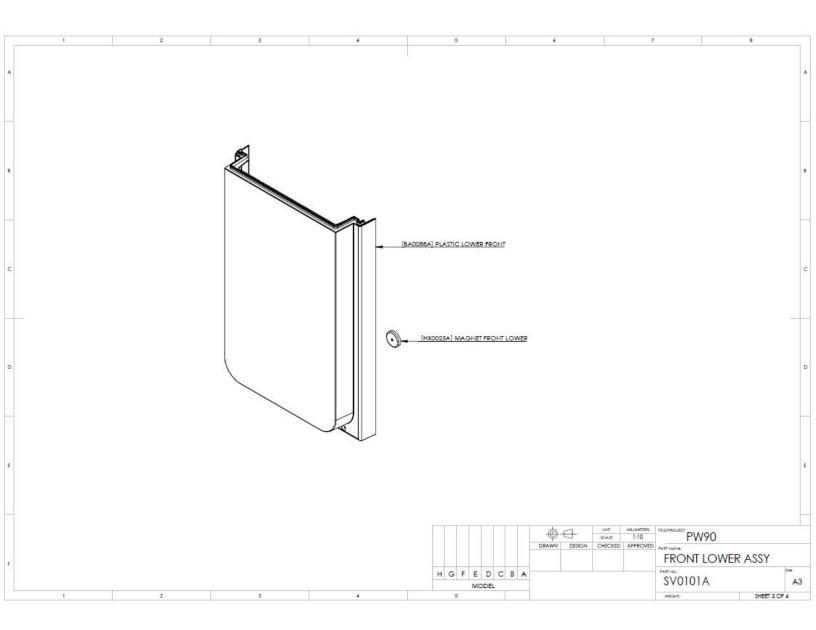






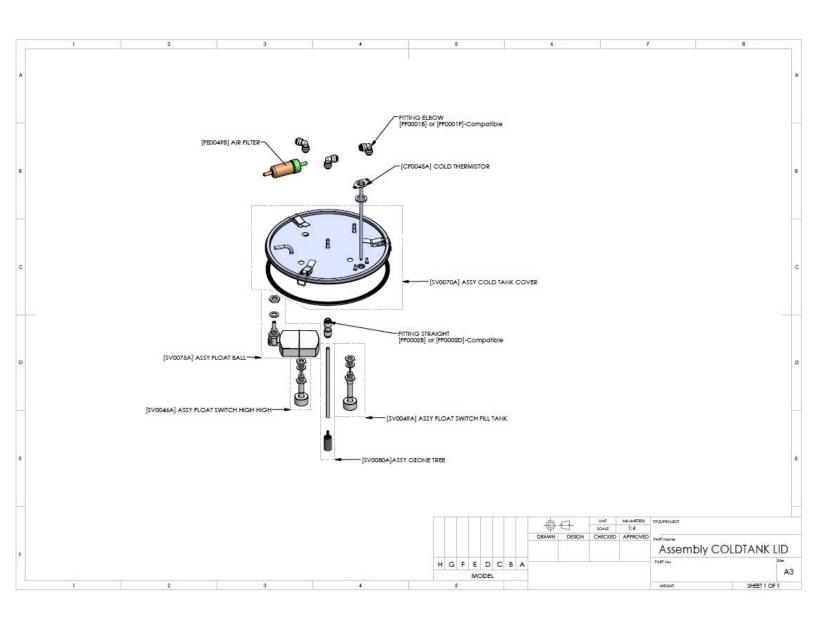






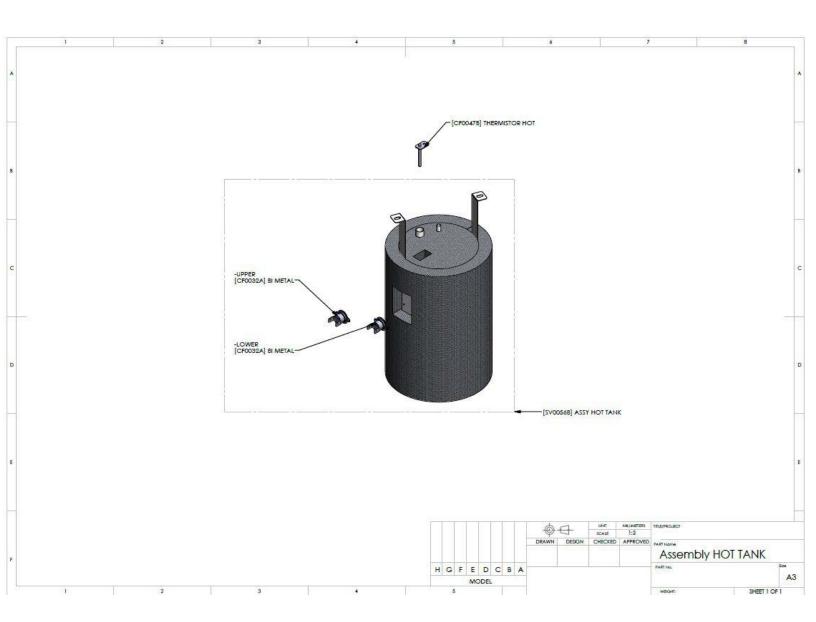






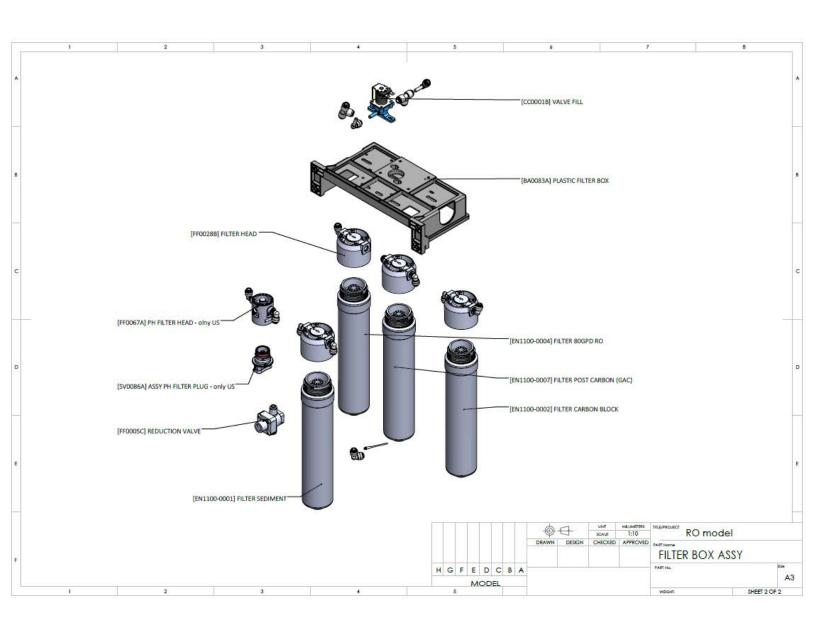






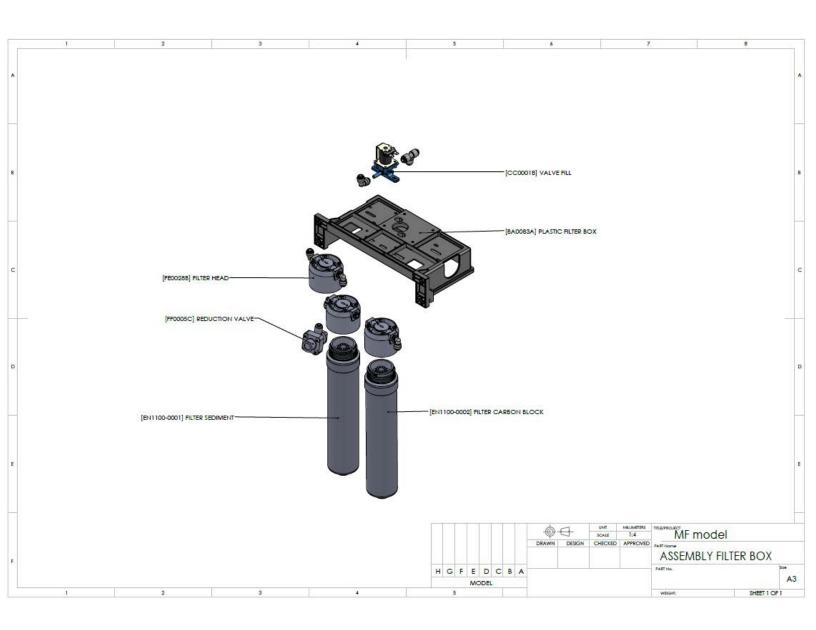
















SPECIFICATIONS

115V PW90 WATER COOLER SPECIFICATIONS

Voltage	115VAC <u>+</u> 10%/1 PH/60
Hertz Size	50-1/2" (128cm)H. 14" (35cm)W. 17" (44cm)D
Shipping Weight (Approx.) – No Hot	90 lbs (41 kg)
Shipping Weight (Approx.) – With Hot	93 lbs (43 kg)
Water Capacity	3 gallons (12 Liter)
HP Compressor (Full Load)	1.1 Amps
Compressor with Hot (Full Load)	5.5 Amps

Specifications subject to change without notice.

WARNING: A pressure regulator, such as a slow flow regulator, must be installed in front of the system's water inlet if the water pressure (including any possible pressure Spikes) could exceed

100 PSIG (690kPA). Failure to comply will void warranty. PURE WATER TECHNOLOGY accepts no liability for damage caused by excessive water pressure. Do not use this drinking water system where the source water is microbiologically unsafe or with water of unknown quality without adequate disinfecting before or after the system.

^{*} These systems have been manufactured with R134a refrigerant.





Troubleshooting Guide

Problem	Possible Cause	Solution
	Unplugged	Plug in system.
No power	Power supply	Check power to outlet.
	Blown fuse	Check fuses F2 and F3 on the circuit board.
	No power to system	Plug in system.
	Water supply turned off	Turn water on.
No Water	Clogged filters	Replace sediment and pre carbon filters.
No water	Dispensing valve	When the cold button is pushed, you should hear a click. If not click, check fuse F1
	Fill sensor	Make sure the fill sensor is not stuck in the "up" position
	Overuse	Check flow rate to reservoir. If flow rate is correct, usage has exceeded flow.
Not enough water	Clogged filters	Replace sediment and pre carbon filters.
Not ellough water	Overuse	Check flow rate to reservoir. If flow rate is correct, usage has exceeded flow.
	Cooler not plugged in.	Plug in system.
Water not cooling	Cold control not turning on compressor	Replace cold control.
	Refrigerant loss	Call service center.
Water not hot	On/Off switch	Turn switch on.
p : d	Fill valve stuck open	Check fill vavle and fill sensor.
Reservoir overflows	Reservoir overfull	Check fill sensor. It should slide freely on stem.
Service light on	Refer to error codes on following page	
Leak detector alarm	External source of water i.e. floor mopped.	Check for leaks in unit or other source of water on leak detector pad. Dry leak
		detector pad and then unplug system. Plug back in

Error Codes

Code No	Reference
01	Cold sensor Open
02	Cold sensor Short
03	Hot sensor Open
04	Hot sensor Short
05	Ozone pump Error
06	Ozone generator Error
07	Tank over Fill
08	High TDS



Product Limited Warranty



PURE WATER TECHNOLOGY LIMITED COOLER WARRANTY

Domestic Initial Limited Warranty:

Pure Health Solutions, Inc. (PURE WATER TECHNOLOGY) promises the original Dealer/Distributor to repair or, at PURE WATER TECHNOLOGY's sole discretion, to replace any part of the water cooler which proves to be inoperative due to a defect in material or workmanship under normal use, for a period of one year from the date of shipment of the machine from PURE WATER TECHNOLOGY to Dealer/Distributor. During the term of this initial warranty, PURE WATER TECHNOLOGY, at its sole discretion, will supply parts to the installing Dealer/Distributor to correct the defect. In case of a refrigeration sealed system repair, PURE WATER TECHNOLOGY will instruct the Dealer/Distributor to use an approved service center or, at PURE WATER TECHNOLOGY for repair or replacement. The cost of any service call required to disconnect, reconnect or transport the system will be the sole responsibility of the Dealer/Distributor. This warranty does not extend to any customer of Dealer/Distributor.

Additional Warranty through Fifth year:

PURE WATER TECHNOLOGY promises that after the end of the initial warranty through the fifth anniversary of the initial limited warranty to supply a new compressor if proven defective by a qualified PURE WATER TECHNOLOGY approved technician.

PURE WATER TECHNOLOGY will provide the compressor to the Dealer/Distributor at no charge. This warranty does not include any costs, including labor charges, travel time, or miscellaneous expenditures incurred by the Dealer/Distributor.

General provision and exclusions:

This warranty only applies in the fifty (50) United States and Canada.

This warranty does not apply, and no agreement, either written or implied, shall be applicable if the affixed serial number is removed, defaced or obliterated.

This warranty does not apply to the filters or Ultra Violet system 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





Warning:

This warranty and the Underwriters Laboratory listing or the conformity to European Union Directive 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 warranty of merchantability or fitness for a particular purpose.

The foregoing is in lieu of all other agreements expressed, implied 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 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 fifth year and b) the Dealer/Distributor shall be responsible for any and all transportation charges to implement the repairs.

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





Warranty Procedure

Procedure for PURE WATER TECHNOLOGY warranty evaluation.

- 1. Contact PURE WATER TECHNOLOGY technical support
- 2. Provide the following information:
 - a. Serial number
 - b. Failure
 - c. Full details around failure
 - d. Water pressure into the system
 - e. Tap TDS
 - f. TDS out of the cold and hot tanks
 - g. Pictures
 - h. Depending on the situation, technical support may request more information.
- 3. Upon approval, PURE WATER TECHNOLOGY will process warranty credit or replacement part to be fulfilled.
- 4. Dealer must maintain possession of the part or system until authorized to discard, failure to do so may result in a denial of warranty.
- 5. For system credits, technical support will provide a credit number which may be given to the account management team on the next qualifying system order.
 - a. The account management team will then provide a system credit.





SERVICIO DE REPARACIÓN Y POST-VENTA TEL. (81) 1642-7777



Agua Óptima es una marca registrada de Pure Water Technology SAPI de CV

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