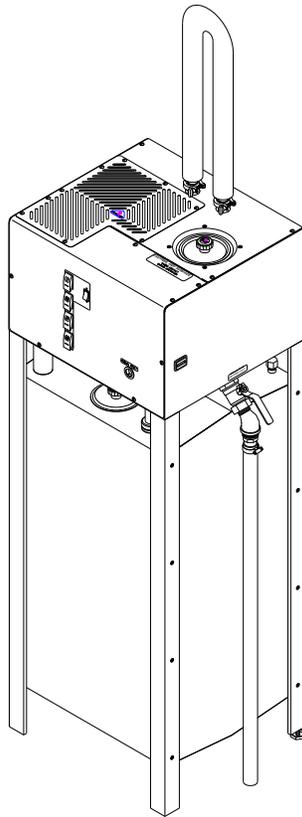




# OWNERS' GUIDE

FOR MODELS: PWS 45-75



## PRECISION WATER SYSTEMS WATER DISTILLER

MANUFACTURED BY:

PRECISION DESIGN & MANUFACTURING INC.  
9024 - 100 STREET  
WESTLOCK, ALBERTA, CANADA, T7P 2L4  
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## 1. INTRODUCTION

Congratulations on your purchase of the most advanced water distiller in the industry. Your new water distiller will provide you with years of trouble free service with minimal maintenance.

## 2. RECORDS

Please record the following important information for any possible future service. All of the information is required to properly identify your distiller.

**Model:**                -        eg: PWS 45-75

**Series:**               eg: 0001

**Serial Number:**                  eg: 9901234

**Voltage:**               eg: 208

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

**Optional Pump Serial No:** \_\_\_\_\_

**Optional Drain Serial No:** \_\_\_\_\_

## 3. WARRANTY

- The warranty for your Precision Water System (PWS) Distiller covers defects in materials for one (1) years on all parts and labor to the original purchaser.
- PWS does not warrant any transportation charges incurred to complete the repair. The distiller owner is responsible for all shipping charges to and from the service center.
- Warranty is void if the distiller is found to have been consumer damaged or misused, caused by acts of God, unauthorized alteration, repair or vandalism.

## 4. IMPORTANT SAFETY PRECAUTIONS

When using electrical appliances, basic safety precautions should always be followed including the following:

### 1. Read all instructions.

2. Do not touch hot surfaces. Use handles or knobs.
3. To protect against electrical shock do not immerse cords or plugs in water or other liquid.
4. Close supervision is necessary when any appliance is used near children.
5. Do not allow children to operate this appliance.
6. Unplug from outlet when not in use and before cleaning. Allow to cool before putting on or taking off parts.
7. Do not operate any appliance with a damaged cord or plug or after the appliance malfunctions or has been damaged in any manner. Return appliance to the nearest authorized service facility for examination, repair or adjustment.
8. The use of accessory attachments not recommended by the appliance manufacturer may cause injuries.
9. Do not use outdoors.
10. Do not let cord hang over edge of table or counter, or touch hot surfaces.
11. Do not place on or near a hot gas or electric burner, or in a heated oven.
12. Extreme caution must be used when moving an appliance containing hot water.
13. Always attach plug to appliance first, then plug cord into the wall outlet. To disconnect, turn any controls to "off", then remove plug from wall outlet.
14. **This appliance is intended for household use.**

### 15. Save these instructions.

## 5. ASSEMBLY INSTRUCTIONS

Unpacking your PWS Distiller you will find the following;

- 1 - Distiller Head
- 1 - Storage Tank
- 1 - Owner's Guide
- 1 - 24" Steam Tower - Insulated
- 4' - 1 1/4" x 1 1/2" Drain Tube
- 1 - Parts Bag Consisting of:
  - 16' - 1/4" Feed Line
  - 1 - 1 1/4" Gear Clamp
  - 1 - Boiling Tank Lid Assembly
  - 1 - Storage Tank Lid Assembly
  - 1 - 1 1/4" Ball Valve
  - 1 - Drain Line Elbow with Coupler
  - 1 - Sterilization Drip Tube 48"
  - 1 - Saddle Valve
  - 2 - Clamping Rings For Tower, w/O-Ring & Centering Ring
- 1 - Parts Bag Consisting of:
  - 1 - Charcoal Jar Sample
  - 1 - Charcoal Filter Canister Stainless Steel
  - 1 - Sample Descaler Cleaner
  - 1 - John Guest Removal Tool

Remove all pieces from the box and save all packaging until all parts are identified and located. Check inside boiler tank and storage tank for any parts shipped in that area. Remove all protective plastic from distiller head, storage tank and lids.

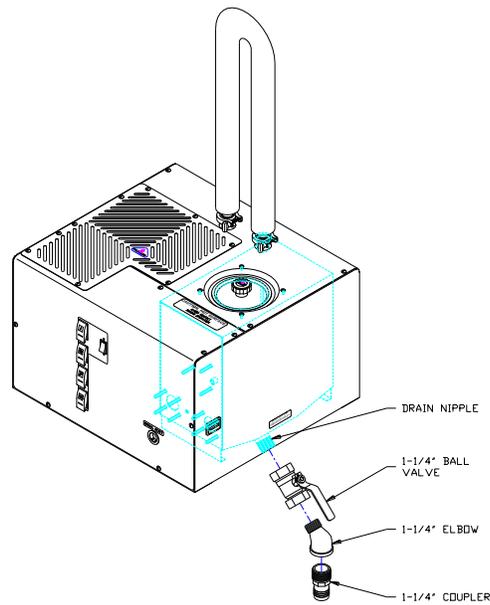
### A. SET UP

Your distiller is factory assembled and tested. You only need to assemble a few components that cannot be shipped installed on the distiller. You will need to disconnect the electrical cord that connects your storage tank to the distiller head by unscrewing the connection counter clockwise. Remove the distiller head from the storage tank.

1. Setting up the Storage Tank: The 75 gallon storage tank is ready for use, all of the parts are assembled on this unit. The storage tank is cleaned and rinsed at the factory. However, you may want to rinse the tank out with pure distilled water to ensure that it is clean. If you have ordered the pump option, see your pump assembly instructions at this time. You will find three 1/2" drain outlets on the bottom of this tank. One can be used for a drain and the other two are used for the pump options.

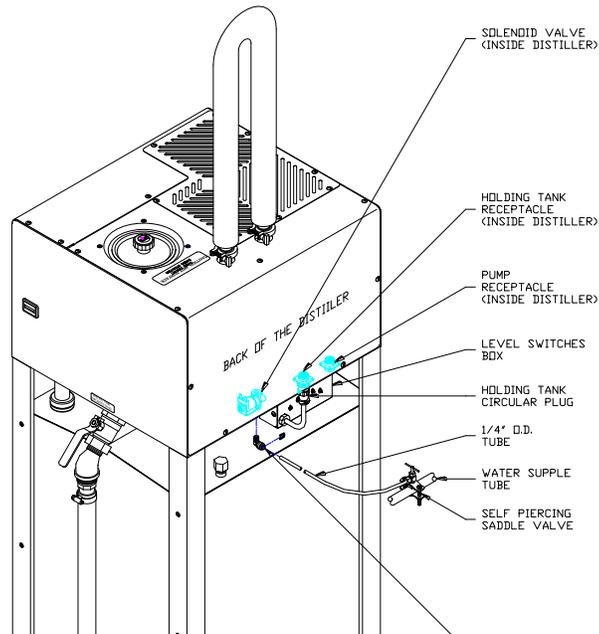
2. With the head removed from the tank install the 1 1/4" ball valve, 45° elbow and barb. Use Teflon tape to get a good seal. It is also advised that you use a back up wrench when you tighten these fittings. Figure #1.

Figure 1



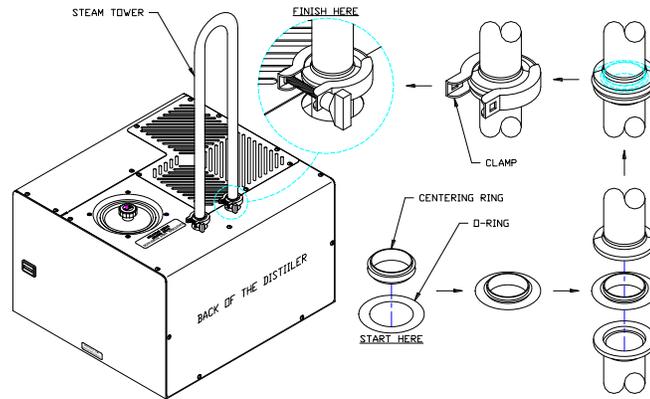
3. Re-install the distiller head on the tank and hook up the electrical connectors from the tank to the back of the distiller head. Then hook up the water feed connector to the distiller and attach the saddle valve to the water line. See Figure #2.

Figure 2



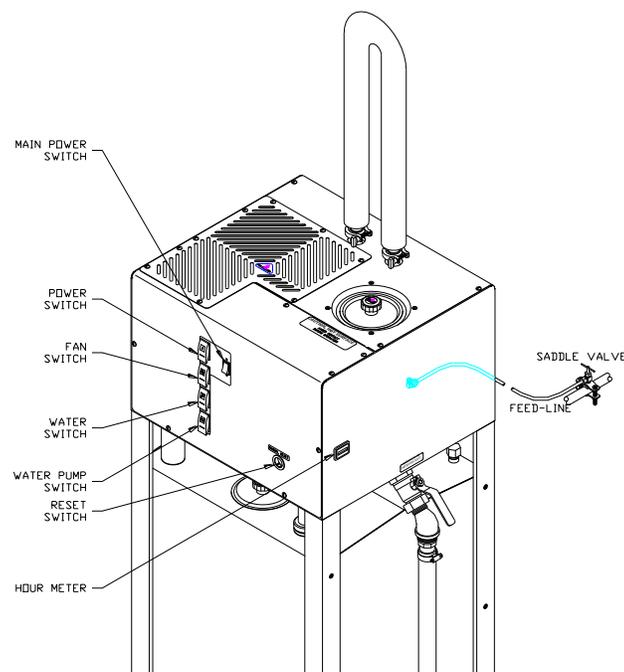
1. Attach the steam tower to the top of the distiller using the centering ring and clamp provided. Attach as shown on diagram and tighten only until snug. Over tightening can cause the centering ring, O ring to be forced from its seal and cause the steam tower to leak. See Figure #3

Figure 3



2. To start your distiller follow the below instructions:
  - A) Make sure the water saddle valve is turned on and the distiller is plugged into its recommended power source.
  - B) Turn main power breaker switch on. This is the main power source for the distiller, when this switch is off it will turn power off to the complete unit. It also serves as a main breaker for the distiller.
  - C) Turn the power switch on.
  - D) Turn the fan switch on.
  - E) Turn the water switch on. This will start opening up the solenoid valve and let the water into the boiler. As the distiller fills the boiling tank and reaches the proper water level then the fan and heater will start to produce the water.
  - F) If you have our pump option, turn the water pump switch on. This will activate the plug at the rear of the distiller once the storage tank fills with approximately 2" of water.

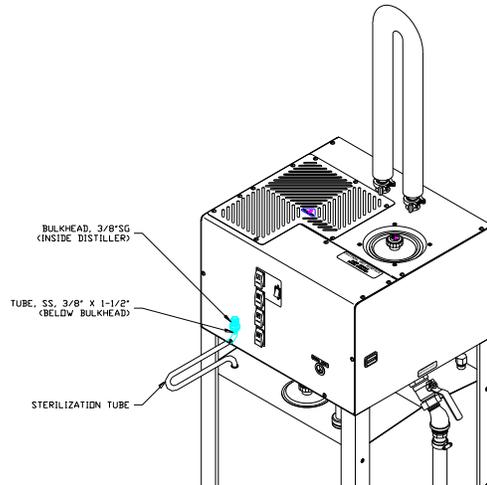
Figure 4



3. Your distiller has been shipped with a sterilization drip tube that is to be placed between the cooling coil and the storage tank. The tube end should be inserted into the storage tank properly. As your distiller continues to heat up, you can sterilize your distiller by simply turning the fan switch off for approximately ½ to 1 hour. Leaving the storage tank lid on. After this cycle is completed, turn the fan switch on and drain any excess water from the storage tank.

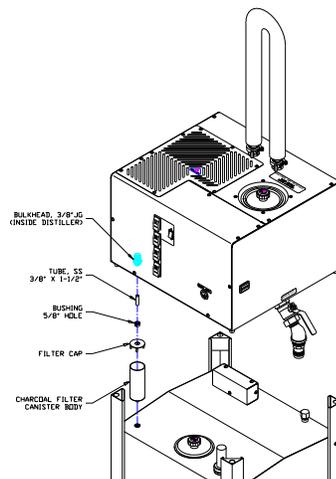
**Caution: The Distiller will be extremely hot.**

Figure 5



- A) At this time, let the distiller cool down for approximately 1 hour. You may need to drain the water from the storage tank with one of the drain nipples. Remove the sterilization drip tube by pulling the plastic tube off the stainless steel tube. *(Keep this tube, it will be needed to sterilize your distiller at a later date.)*
- B) Take the charcoal filter canister and remove the charcoal filter lid from the filter canister body and fill charcoal filter canister 2/3 full.
- C) Rinse charcoal with 2 cups of distilled water until water runs clear through filter.
- D) Press filter lid onto filter body.
- E) Lift up on corner of distiller and slide filter tube into tank and lower distiller so the cooling coil tube enters the top of the filter. See Fig. 6.

Figure 6



Your distiller is now ready for years of service, please follow Operation, Maintenance and Cleaning instructions.

## 6. MAINTENANCE & CLEANING

The purpose of purchasing your distiller is so you would not have to drink the impurities in your drinking water. A distiller effectively removes the impurities and chemicals from your water and returns the taste of pure water so that it is pleasing to drink for the entire family. So it is important to also keep the distiller clean so that it may do its job well.

Drain the boiling tank every day or after every 45 gallons of distilled water that is produced. Simply place a container under the impurities drain tube and turn the valve to release impurities. This will be done automatically if you have installed the optional Automatic Electric Drain. Every two weeks take a look inside the boiling tank. If you have hard water it is advised that you install a water softener on your line. This will greatly reduce the scale buildup that forms in the boiler (no.7 optional accessories). If there is a build up of scale on the sides of the boiling tank, then use the descaler cleaner provided to clean the tank as follows:

- A)
1. If your Distiller is equipped with the Automatic Electric Drain, close the valve at the side of your Distiller.
  2. Remove any loose scale from inside of the boiling tank, if the sediment strainer drain holes are plugged, pull strainer upwards to remove and clean.
  3. Fill the boiling tank half full with hot tap water. (Note: More than ½ full may allow the cleaner to foam over)
  4. Slowly add 3 tablespoons of descaler cleaner.
  5. Mix well to dissolve the descaler.
  6. Fill up the remaining portion of the boiling tank with hot water to bottom of water gauge pin.
  7. Let solution stand overnight. No lid.
  8. The next morning or when the mineral content is soft, drain the boiling tank.
  9. Repeat cleaning if necessary.
  10. If all scale has been removed, rinse boiler several times with warm tap water.
  11. Replace sediment strainer. This is necessary to stop large impurities from plugging the drain valve fitting or Automatic Drain Kit.

**Now in preparation to produce pure water again, repeat the sterilization process as instructed earlier.**

**NOTE: Descaler is a corrosive and poisonous substance. Read safety precautions on package. As you place descaler in your tank it will produce a bubbling foam substance. Do not overfill. Always leave boiling lid off when ever the boiling tank is being descaled to reduce fumes travelling through the cooling coil. Dispose of 1<sup>st</sup> batch of distilled water as a precaution.**

B) Replacing Charcoal Filter

1. Remove the complete charcoal filter canister from distiller by lifting the corner of the distiller.
2. Remove lid completely and empty charcoal from canister and rinse.
3. Add new charcoal 2/3 full and rinse with 2 cups of distilled water until water runs clear.
4. Press lid back onto filter body.
5. Place filter back onto distiller by lifting front corner and push filter tube into tank and lower distiller head so the coil tube enters the top of the filter. The charcoal should be changed every 2 months.

## 7. OPTIONAL AUTOMATIC ELECTRIC DRAIN KIT

The optional Automatic Drain is necessary to drain the impurities from the boiling tank. This automatic drain system conveniently drains the boiling tank each time the unit shuts down. Every time the distiller starts up, it will start with a fresh batch of raw water.

## 8. OPTIONAL ACCESSORIES

<u>Description</u>		<u>Part Number</u>
1. Automatic Pump Kit, APK - 4	- 220V	520004
2. Automatic Drain System, AED - 2	- 220V	520003
3. Descaler Cleaner	- 600 Gram Jar 1.6 Kg. Jar	500102 500104
4. Replacement Sediment Filter Cartridge		080073
5. Sediment Filter Head, With Mounting Brackets		080080
6. Replacement Coconut Charcoal	- 250 gram Jar - 600 gram Jar	500106 500107
7. 20,000 Grain Water Softener		097045

## 9. TROUBLE SHOOTING

**Problem: Distiller does not operate.**

- Causes:
1. Distiller is not plugged in securely or the circuit breaker is off.
  2. Power Switch on the distiller is turned off.
  3. Reset button has shut the unit off. The reset button will shut the unit off if the distiller has overheated, you may reset once the distiller is cooled off. This may also indicate a problem and should be looked at by a service center. The reset button is a safety feature and is designed to shut the distiller down should it overheat.
  4. The Storage Tank is full of water. From a full Storage Tank you have to use approximately ½" water from the storage tank before unit will start distilling again.

**Problem: Water is coming out from the top of the charcoal filter.**

- Causes:
1. Charcoal is old and compacted. Replace coconut charcoal from inside the filter canister.
  2. Water solenoid valve has malfunctioned and is stuck open or boiler float system malfunctioning.

**Problem: Charcoal Filter is very hot and steam is escaping from filter.**

- Causes:
1. The fan switch is turned off.
  2. Fan motor is not running properly, check to make certain the fan is not obstructed.
  3. Cooling coil fins are plugged.

**Problem: Boiling tank will not fill with water.**

- Causes:
1. The self-piercing saddle valve is turned off.
  2. The direct water feed line may be obstructed or kinked.
  3. The water switch and/or the power switch is off.
  4. The float in the boiling tank may be stuck.
  5. Opening for water feed line inside the boiling tank may be scaled up.

**Problem: Strange taste in Distilled Water**

- Causes:
1. Boiling tank may require cleaning, see section on maintenance and cleaning.
  2. Storage tank or container may require cleaning.
  3. Boiling tank has overflowed, float system or water solenoid valve has failed and allowed un-distilled water to overflow into the cooling coil.
  4. Charcoal Filter requires new Coconut Charcoal.

**Contact any Precision Water System Service Center to correct any problems with your distiller that is not covered in this guide. You may contact the factory at the address on the front cover of this Owner's Guide for a Service Center in your area.**

**9. WARRANTY REGISTRATION**

**IMPORTANT!**

**PRECISION DESIGN & MFG. INC.**

**IMPORTANT!**

Thank you for purchasing this fine Precision Water Systems Water Distiller.  
Please complete the information below and return it within the next ten days so we may register your purchase.

1. ♂ Mr.    2. ♀ Mrs.    3. ♂ Ms.    4. ♀ Miss

First Name										Initial		Last Name									
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Address: (Mailing)																		Apt. #	
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City						Prov/State			Country				Postal Code/Zip			
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Date of Purchase:	Month		Day		Year		Phone Number:						
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Model Number:	Found on Distiller Plate						Serial Number:	Found on Distiller Plate					
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Series Number:				
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Purchased From:																				
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**Please fill in information completely and mail directly to:**

**Precision Design & Manufacturing Inc.  
9024 - 100 Street  
Westlock, Alberta, Canada  
T7P 2L4**

**Or Fax To: 780-349-4957**