

Model **PBD**
42D-10
&
42D-25

This Manual Applies To:	
Part #	Series #
101001	0004
101002	0004
101003	0005
101004	0005
101007	0005
101009	0005

Owner's Guide

- **Assembly**
- **Operation**
- **Maintenance**
- **Troubleshooting**
- **Accessories**
- **Parts List**



\$10.00 CDN

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Polar Bear Water Distillers
Mfg. Co. Ltd.

99054-

Polar Bear Distiller Warranty

POLAR BEAR WATER DISTILLERS MFG. CO. LTD. warrants to the original purchaser, their products against defects in materials for a period of one (1) full year on all electrical components, other parts and labor, and ten (10) years on all stainless steel parts.

If the Distiller is found to have defective stainless steel components within the first five years or electrically defective parts within the first year, the parts will be repaired or replaced at no cost to the customer. If the Distiller is found to have been consumer damaged or abused, the warranty does not obligate POLAR BEAR WATER DISTILLERS MFG. CO. LTD. to bear any transportation charges in connection with the repair or replacement of defective parts.

After five years from the date of purchase, stainless steel parts are warranted on a fully pro-rated replacement cost basis not to exceed 10 years from date of purchase.

This warranty is invalid if the damage or defect is caused by accident, act of God, customer abuse, unauthorized alteration or repair, vandalism or misuse.

This warranty is made in lieu of any other express warranty and except for the foregoing warranty which is exclusive, there is no other express warranty being made.

The purchaser is responsible for all shipping charges to and from the service center. The manufacturer, dealer or service center is not responsible for damages incurred during shipping.

POLAR BEAR WATER DISTILLERS MFG. CO. LTD. believes the information contained in this manual to be accurate. Parts, specifications, and instructions are subject to change without notice.

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Distiller Information

Model: _____

Series: _____

Serial Number: _____

Purchase Date: _____

Purchased From: _____

Telephone: _____

Installation Date: _____

Installed By: _____

Pump Serial Number(Optional): _____

Purchase Date: _____

Auto Drain Serial Number(Optional): _____

Purchase Date: _____

42D-10

Shipping Weight 30 Kg (65 lb.)
 Machine Weight 25 Kg (55 lb.)
 Machine Height..... 980mm (38 ½")
 Machine Width..... 570 mm (22 ½")
 Machine Depth..... 410 mm (16")

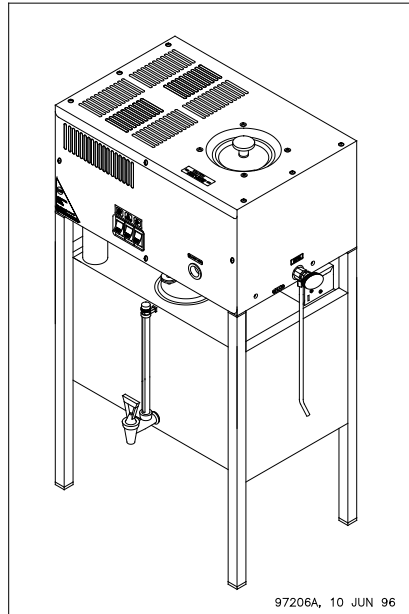
Electrical Ratings:

120 Volts, 13.2 Amps, 1500 Watts
 220 Volts, 6.6 Amps, 1500 Watts

Distilling Capacity:.....46 Litres/Day
 or12 US Gal./Day

(Based on 24 hours continuous operation under ideal
 conditions - actual production may vary)

Holding Tank: 38 Litres
 or 10.0 US Gal.



42D-25

Shipping Weight 37 Kg (81 lb.)

Machine Weight..... 28 Kg (62 lb.)

Machine Height 1300 mm (51")

Machine Width570 mm (22 ½")

Machine Depth450 mm (17 ½")

Electrical Ratings:

120 Volts, 13.2 Amps, 1500 Watts

220 Volts, 6.6 Amps, 1500 Watts

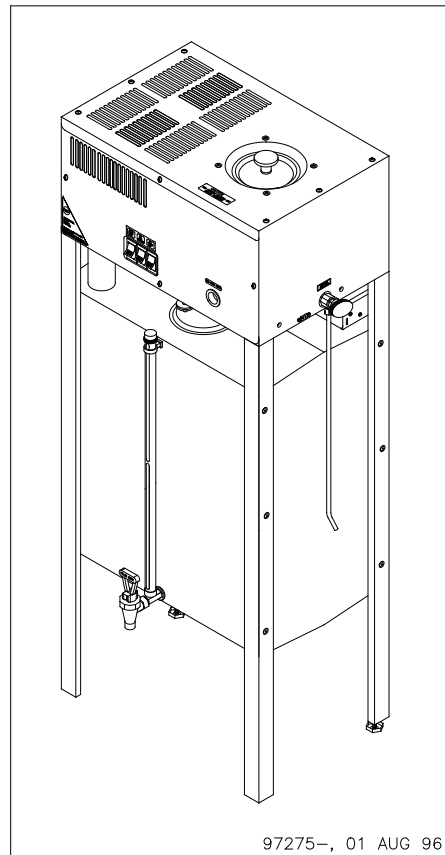
Distilling Capacity:..... 46 Litres/Day

or 12 US Gal./Day

(Based on 24 hours continuous operation under ideal
conditions - actual production may vary)

Holding Tank:95 Litres

or25.0 US Gal.



Introduction

Congratulations! You are now the owner of one of the many fine products manufactured by **Polar Bear Water Distillers Mfg. Co. Ltd.**, a world leader in the water purification industry. We take pride in our solid reputation for product quality and industry-proven performance.

This product has been carefully inspected to comply with rigid factory quality control standards, as well as, where applicable, those of the Canadian Standards Association(CSA), Underwriters Laboratories (UL)*, and National Sanitation Foundation International (NSF)**. We are sure that, with reasonable care, it will provide you with years of reliable performance.

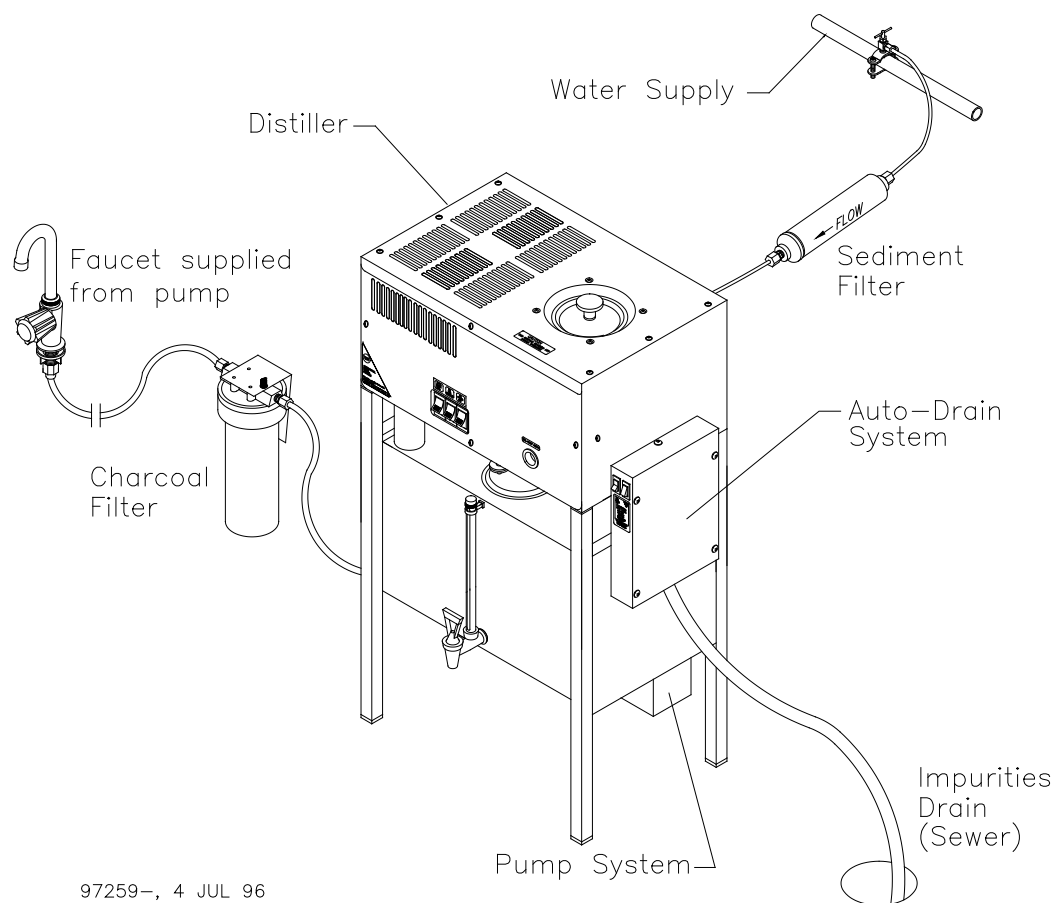
Polar Bear Water Distillers Mfg. Co. Ltd. compliments you on your choice - and know you will enjoy the purest and healthiest water available, because...

"We care about the water you drink!"

* Note: The physiological effects of the operation of this appliance, beneficial or otherwise have not been investigated by Underwriters Laboratories Inc.

** Note: The National Sanitation Foundation International has only tested for reduction of certain chemicals in accordance with Standard 62, Drinking Water Distillation Systems (TDS, Flouride & Mercury).

Accessories for the 42D-10 and 42D-25



All of the accessories shown above are also available for the 42D-25.

For more information on available accessories, see the section on **Accessories** in this guide.

Distiller Features

- Optional Accessories: Auto-drain system, Pump kit with faucet, external Charcoal Filters, and feed line Sediment Filters.
- Easy to clean and maintain.
V-shaped boiling tank bottom for fast, efficient drainage of impurities. Just open the tap and drain. For automatic draining and even less frequent cleaning, install a Polar Bear Auto-Drain.
- The distiller and holding tank are manufactured from attractive, long-lasting high grade 304 stainless steel.
- Double-baffle system for the purest distilled drinking water available.
- Volatile gas release vent – expels contaminants with a lower boiling point than water.
- Automatic start/stop float system.
- Comes complete with all parts needed for fully automatic operation
- Built-in safety system that automatically shuts off the distiller should it overheat.
- Flush mount boiler lid for easier clean-up and a more compact design.
- Low level pump shut off prevents pump from running dry.
- Coconut Charcoal Filter.
- Air filter on Holding Tank prevents airborne contamination.
- Ten year limited warranty on all stainless steel parts and one year on all electrical parts and labor. See: **Polar Bear Distiller Warranty**.

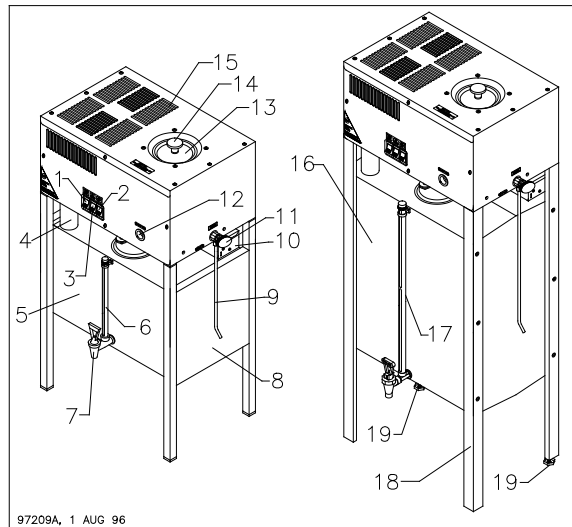
As You Begin...

1. It is important to fill out and return the warranty card in this manual. The information is necessary should parts or repairs be needed during the warranty period.
2. Each distiller is operated at the factory and tested for leaks and proper operation. Therefore, the distiller may have a water ring inside the boiling tank.
3. Proper cleaning is important! Keep the distiller and especially the inside of the boiling tank clean at all times. This is necessary to produce the purest water possible. See section on Maintenance for more information.
4. The boiling tank is TIG (Tungsten Inert Gas) welded. As water is distilled, minerals may cling to the weld, appearing as rust. This does NOT affect the quality of the water! Discoloration in corners of the boiling tank is caused by the heat during welding.
5. Distilled water may have a different taste. This is not a "taste", but a lack of taste. You will become accustomed to this the same way you did to the water in your area.

Know Your Distiller

Use this picture as a reference throughout this manual.

1. Water Fill Switch - On/Off
2. Main Power Switch
3. Fan Switch - On/Off
4. Coconut Charcoal Filter
5. 10 Gallon Storage Tank
6. 11" Sight Gauge
7. Distilled Water Drain Faucet
8. Storage Tank Leg Assembly
9. Impurities Drain Extension Tube
10. Holding Tank Switch Box
11. Impurities Drain Valve
12. Reset Button
13. Boiling Tank Lid
14. Boiling Tank Lid Knob
15. Volatile Gas Release Vent (inside)
16. 25 Gallon Storage Tank
17. 23" Sight Gauge
18. 25 Gallon Tank Leg
19. Adjustable Legs (For Levelling)



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Distilled Water – Benefits, Uses, & Questions

You have made an excellent choice in using distilled water. To help answer some questions of your own, or those of others, here are some of the benefits, uses, and answers to common questions about distilled water.

There is also a section on how distilled water is made.

Benefits

- Provides the *purest drinking water* - reduction of certain chemicals, impurities, pollutants, and bad taste.
- Distillation does not rely on physical barriers which can break down or fail. The prolonged boiling process in water distillers is critical for killing and eliminating bacteria and viruses. No other process is as effective or as reliable.
- Eliminates scale build-up on pots, tea kettles, coffee pots, humidifiers, vaporizers, steam irons, etc.
- Produces less waste water than reverse osmosis.
- Distillers are not affected by low or varying water pressures, temperatures, or pH. Consistent, high quality water will be produced for the life of the Distiller.
- **Polar Bear** water distillers are extremely durable, trouble-free appliances that require a minimum of service and maintenance for efficient and complete operation.

Uses

- Drinking – Distilled water is an excellent drink all on its own.
- Ice cubes - not only are they more shiny due to the absence of impurities in the water, but they are also harder.
- Tea and coffee. When you use distilled water to make coffee or tea, try approximately 1/3 less grounds or tea leaves. There will be a somewhat light color, but just as rich flavor, as well as a less-bitter taste.
- Juices and drinks. Try adding about 25% more water. Because the distilled water is free from chlorine, there will be no interaction between the chlorine and the Vitamin C.
- Cooking and baking - for standard results from favorite recipes. Flavors come through naturally, baked goods have a better texture. *Pasta products* will absorb more distilled water than tap water, producing better texture and flavor, as well as less tendency to cling together. Canning fruits and vegetables - not only do they retain a more natural color, but the flavor is better.
- Infant care and formulas. (Be sure to follow your Doctor's advice on sterilizing water for infants)
- Wine making or mixing drinks.
- Drinking water for pets and for topping off aquariums.
- Automobile care - for batteries, as well as windshield washers - leaves no spotting.
- Photographic equipment and laboratories.
- Watering plants.
- Water based paints.
- All types of cleaning – less streaking on mirrors, windows, etc.

Answers to Some Frequent Questions

Question: Is tap water really safe for drinking?

Answer: Many tap water supplies are, for the most part, safe in terms of being free of disease-causing bacteria. There are tests of water supplies throughout the world that now show varying degrees of contamination by modern chemical pollutants. In many cases, the chlorine used to rid water of bacteria is now interacting with these chemicals, creating additional pollutants. Water supplies may also be contaminated by asbestos, copper, cadmium and lead from water pipes. Drinking water from untested wells can be very unreliable, particularly when located on ½ - acre plots where it is almost impossible to keep seepage from the cesspool or septic tank out of the well.

Question: Why is distilled water the safest water to drink?

Answer: Distillation is more effective than any other purification system in removing bacteria, chemicals, and minerals from the water. Independent test results show a greater than 99% efficiency removal of contaminants, such as chlorine, nitrate and sodium, when water is distilled using a Polar Bear water distiller*. Distilled water is virtually pure H₂O and the safest of all drinking water.

Question: Does distillation remove minerals from water that our bodies need?

Answer: Distillation does remove minerals from water, however these minerals are inorganic and cannot be used by the body. The body assimilates the organic minerals which are abundant in the foods we eat.

* Results from: An Evaluation of Polar Bear Water Distillers For Removing Toxic Industrial and Agricultural Contaminants, 'Enviro-Test Laboratories', September 28, 1987, Ref. No. 762.REP.

Question: Are water softeners considered water purifiers?

Answer: No. Water softeners do not kill bacteria or take out any contaminants. Rather, they add salts to the water. No one on a sodium (salt) restricted or sodium-free diet should drink softened water.

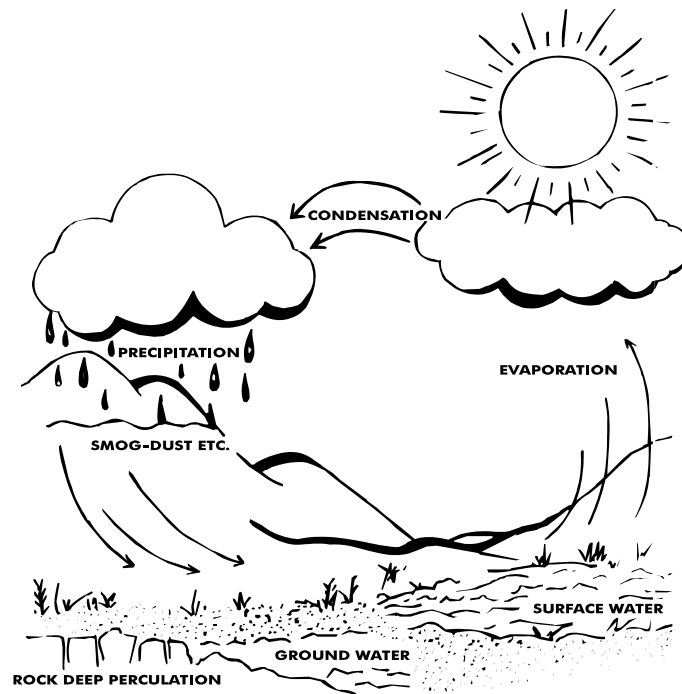
Question: Are there any other benefits of distilled water?

Answer: Food has more flavor. A glass of cold, distilled water tastes 'clean'. Everything remains pure, as there is nothing left in the water to interfere with or change the original natural flavor.

The Process of Distilling Water

The process of distillation duplicates Nature's hydrologic cycle:

1. In nature, the heat of the sun vaporizes the surface water and draws it into the atmosphere, leaving the impurities behind.
2. As the vapor cools, it condenses and falls back to Earth as rain or snow.
3. As it falls back towards Earth through smog and dust, the water can pick up many forms of contamination.
4. Even more contamination is absorbed through ground contamination.



Distillers are designed to duplicate Nature's hydrological cycle, but they take it a step further by producing high purity water in a chamber, essentially free from pollution. Distillers boil the feed water, creating steam. The steam rises, leaving almost all of the impurities behind in the Boiling Tank. The steam is collected and condensed as clean, distilled water and stored in a stainless steel Holding Tank. The impurities that remain in the Boiling Tank are then expelled to a drain or sewer.

Polar Bear Water Distillers

Distillation is the only water treatment process that does not rely on physical barriers to separate good, clean water from contaminants.

With proper maintenance, Polar Bear distillers will reject contaminants just as effectively ten years after installation as they do the day they are purchased.

Our distillers also include a charcoal filter, designed to handle the contaminants that boil at lower temperatures than the boiling point of water.

Assembly

The Distiller & parts have been shipped in one box . While unpacking, save all packing material until the Distiller is in full operation. Save the box should the Distiller require transportation.

Parts Included

42D-10

- 1- Distillation Head
- 1- Distilled Water Holding Tank
- 1- Set Leg Assemblies (may be installed on holding tank)
- 1- Holding Tank drain faucet with sight gauge
- 1- Boiling tank impurities drain extension (stainless steel)
- 1- Parts Box:
 - 1- Roll ¼" Feedline Tubing
 - 1- Instruction Manual and Warranty Card
 - 1- Saddle Valve kit
 - 1- Lid for boiling tank
 - 1- 3-5/8" Charcoal Filter
 - 1- Holding tank lid
 - 1- Sample jar of Cleaner/Descaler
 - 1- Sample jar of Activated Coconut Charcoal
 - 1- Length of Sterilization Drip Tube
 - 1- Greeting Card

**** Note: Distiller installation must comply with all local and state regulations.***

42D-25

- 1- Distillation Head
- 1- Distilled Water Holding Tank
- 1- Set of Legs
- 1- Holding Tank drain faucet with sight gauge
- 1- Boiling tank impurities drain extension (stainless steel)
- 1- Parts Box:
 - 1- Roll ¼” Feedline Tubing
 - 1- Instruction Manual and Warranty Card
 - 1- Saddle Valve kit
 - 1- Lid for boiling tank
 - 1- Holding tank lid
 - 1- Sample jar of Cleaner/Descaler
 - 1- Sample jar of Activated Coconut Charcoal
 - 1- Length of Sterilization Drip Tube
 - 1- 3-5/8” Charcoal Filter
 - 1- Greeting Card

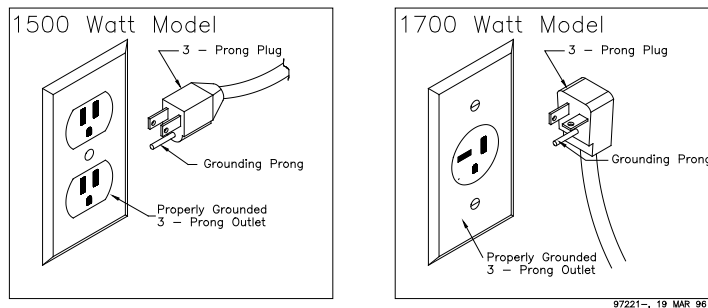
**** Note: Distiller installation must comply with all local and state regulations.***

Location of Distiller Installation

Before installing your Distiller, decide where it will go, keeping in mind the following important factors:

1. The Distiller requires cool air to operate properly. Air flow must not be restricted by placing objects on top of Distiller, and it must be installed in an area that receives plenty of cool air.
2. Size & location of the Distiller including options such as Pump Kit, Auto-Drain, Sediment Filter, and external Charcoal Filter.
3. Close proximity of water supply (when using the automatic water feed).
4. Access to drain impurities using a pail or other suitable container, OR close proximity to a water drain (sewer) if an Auto-Drain is to be installed.
5. Location of power. Distiller must be plugged directly into a wall outlet which should be on a dedicated circuit. (see Distiller Information for power requirements)

If you have purchased a 1700 Watt 42D-10 or 42D-25, the wall receptacle and cover required are supplied with your purchase. This 20 Amp wall plug should be installed by a qualified electrician. This plug should be serviced by a 20 amp breaker and 12 gauge wire connecting to the plug.



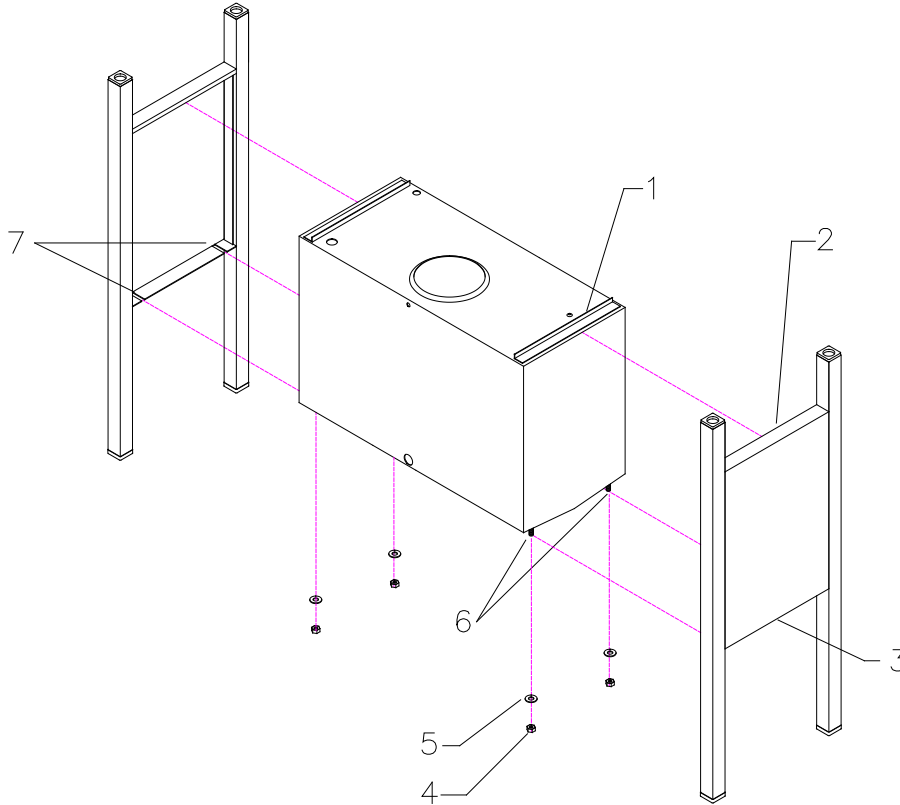
Unpacking

1. Follow box unpacking instructions in top of box.
2. Remove all packing material from outside distiller.
3. Remove paper packing inside boiling tank to free up Boiler Tank Float – be careful not to bend float arm.
4. Remove tape securing float inside Holding Tank – be careful not to bend float arm.
5. Strip off any protective plastic from Distiller, Holding Tank, Legs and Lids.

Holding Tank Leg Installation

42D-10

1. Place Holding Tank on one end. Clip top edge of leg assembly (2) over lip on top of Holding Tank (1). NOTE: May already be installed at factory.



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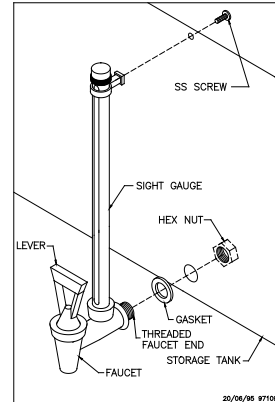
2. Push bottom edge of leg assembly (3) over bottom of Holding Tank.
3. Align two slots on leg assembly (8) so they pass over studs on Holding Tank (6).
4. Place one washer (5) and one nut (4) on each stud (6). Tighten.
5. Repeat steps for other leg assembly.

42D-25

1. Using a Phillips screwdriver, remove the screw fastening one of the four 7" packing legs attaching the storage tank to the distiller head. Also remove the two screws on the tank directly above each of the packing legs, as they are used to attach the legs to the distiller. **Note: Packing legs are for packaging purposes only.**
2. Install the appropriate Holding Tank Leg by positioning the three holes in the leg over the nuts studded to the tank and securing the legs with the three screws just removed. This is best done by first vertically lowering the leg onto the distiller head foot and then aligning to tank. (Adjustable Legs are for rear of unit).
3. Repeat steps 1 & 2 until all four legs are installed and tightened. Discard the packing legs, or save them with the cardboard box if the unit requires future moving.
4. Tip complete unit on to it's feet.
5. With the Distiller supported on the floor, cut the two straps around it and unpackage the the power cord.
6. Remove the plastic bag and cardboard packing from Distiller.

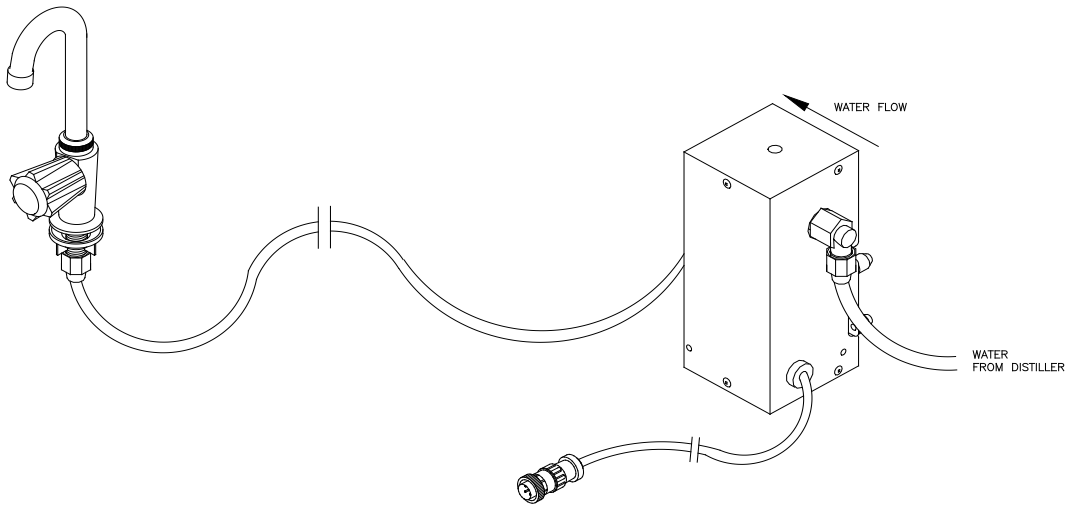
Holding Tank Drain Faucet

1. Remove Distiller Head from Holding Tank.
2. Remove any remaining tape from float inside Holding Tank (inside of top of Holding Tank) – be careful not to bend float arm.
3. Place gasket on threaded faucet end (as shown).
4. Insert threaded section through hole in bottom front of tank.
5. Reaching through top of the tank (while holding faucet in position with other hand), install the nut on Threaded Faucet End. On a 42D-25, this may require taping the nut to a box-end wrench to reach deep enough into tank to get nut started.
6. To tighten the nut, turn faucet counter-clockwise 1/8 of a turn, **finger-tighten** the nut on the inside of the tank. On a D-25, if a wrench is needed to reach the nut, tighten until there is resistance. **Do not overtighten!**
7. Holding the nut, turn the faucet clockwise until upright. *Do not push on sight gauge as it is fragile!*
8. Install Screw for sight gauge support as shown.
9. Rinse out the Holding Tank to remove any dust, etc. that may be present from shipping and/or packaging materials.
10. Install Pump Kit Adapter Fitting from Pump Kit (if purchased). See section on Pump Kit Installation.
11. Replace Holding Tank Lid.
12. Place Distiller Head onto Holding Tank.



Pump Kit (Option) Installation

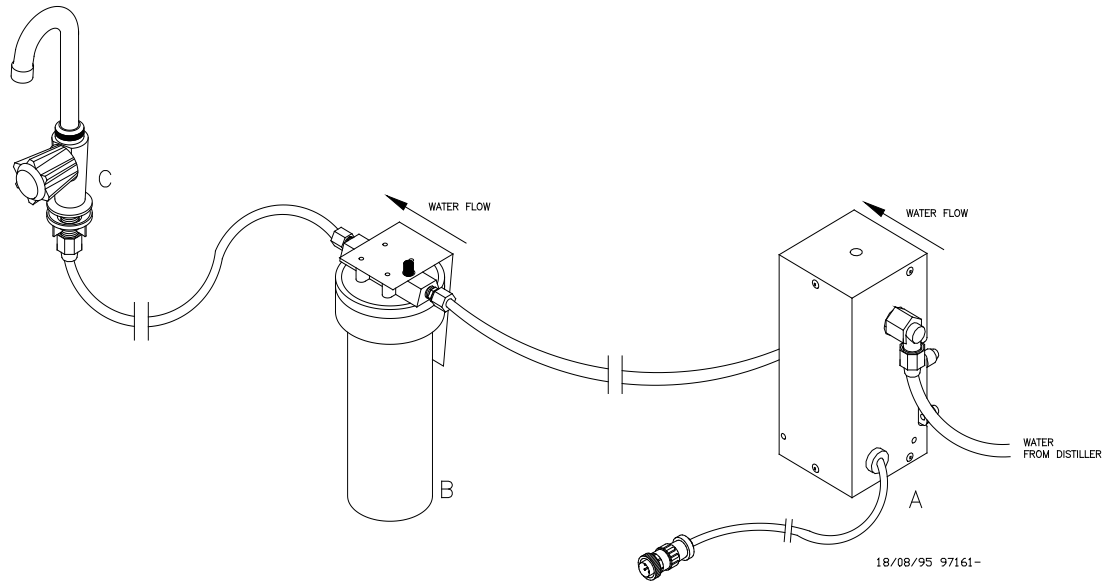
The Pump Kit with Faucet is an option to the Distiller that provides distilled water to be conveniently pumped to a separate faucet (kitchen sink, for example).



Follow instructions provided with the Pump Kit to complete installation.

External Charcoal Filter (Option) Installation

Installed Between a Pump and Faucet (from optional Pump Kit), an External Charcoal Filter will provide longer periods between changes than the standard Charcoal Filter provided with the Distiller. Contact your dealer for more information.

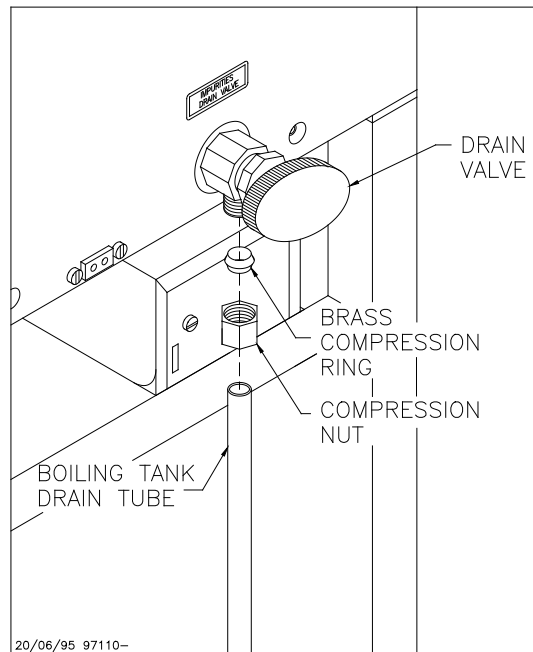


Follow instructions provided with the Charcoal Filter to complete installation.

Boiling Tank Drain Extension

The Drain Extension will allow you to manually drain the Boiler Tank into a waste container. If you have purchased an automatic drain (Auto-Drain) system, installation of the Drain Extension is not necessary – follow the installation instructions in the Auto-Drain.

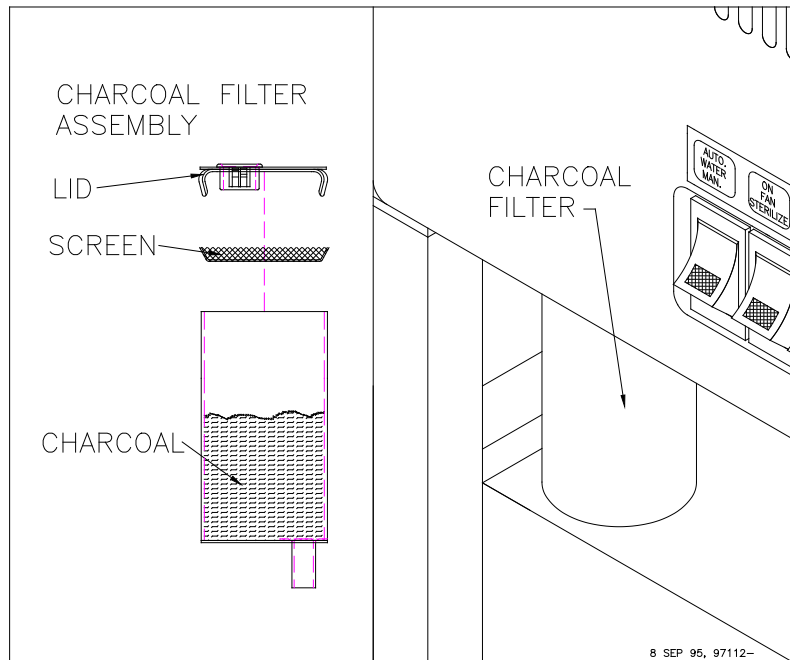
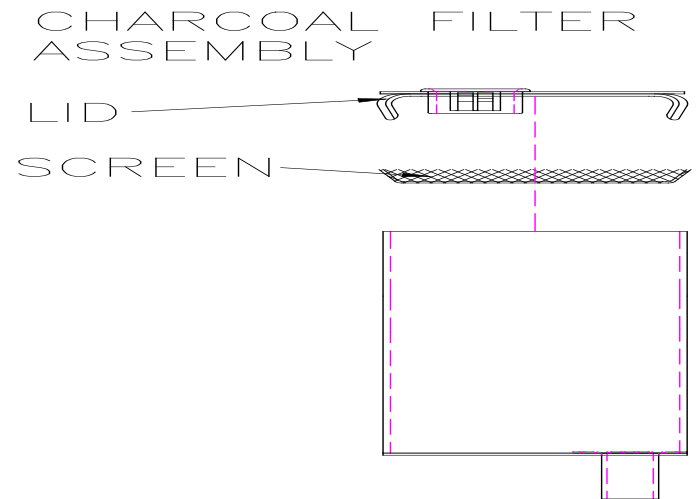
1. Remove the compression nut and brass compression ring from the boiling tank drain valve.



2. Slip the compression nut over the tube, small opening first, then slip on the brass compression ring (as shown).
3. Push the Drain Tube into the opening of the drain valve, turning Tube to point away from Distiller.
4. Thread compression nut onto the drain valve and tighten.

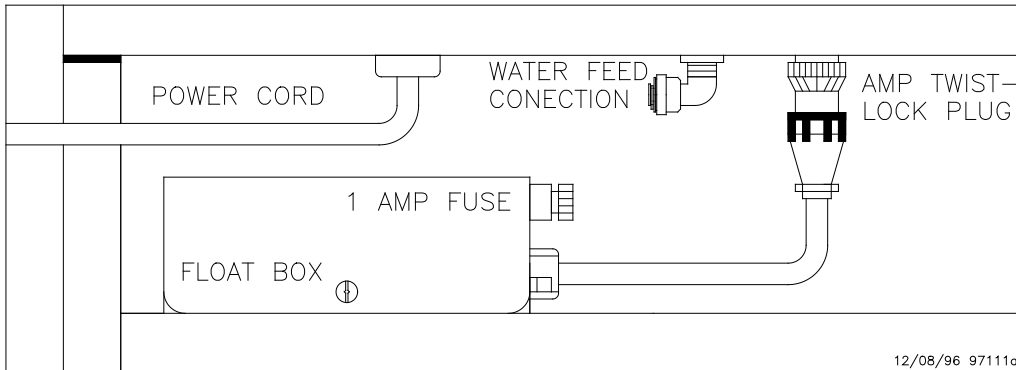
Charcoal Filter Cannister

1. For the initial installation of the Distiller, leave the filter empty of charcoal. This will allow you to perform the Initial Sterilization procedure after assembly is complete.
2. Place Charcoal Filter into Distiller by lifting the front left corner of Distiller Head just enough to insert Condenser Coil exit into Filter Lid.
3. Insert Filter Exit into plastic bushing on top of Holding Tank.



Power Connections

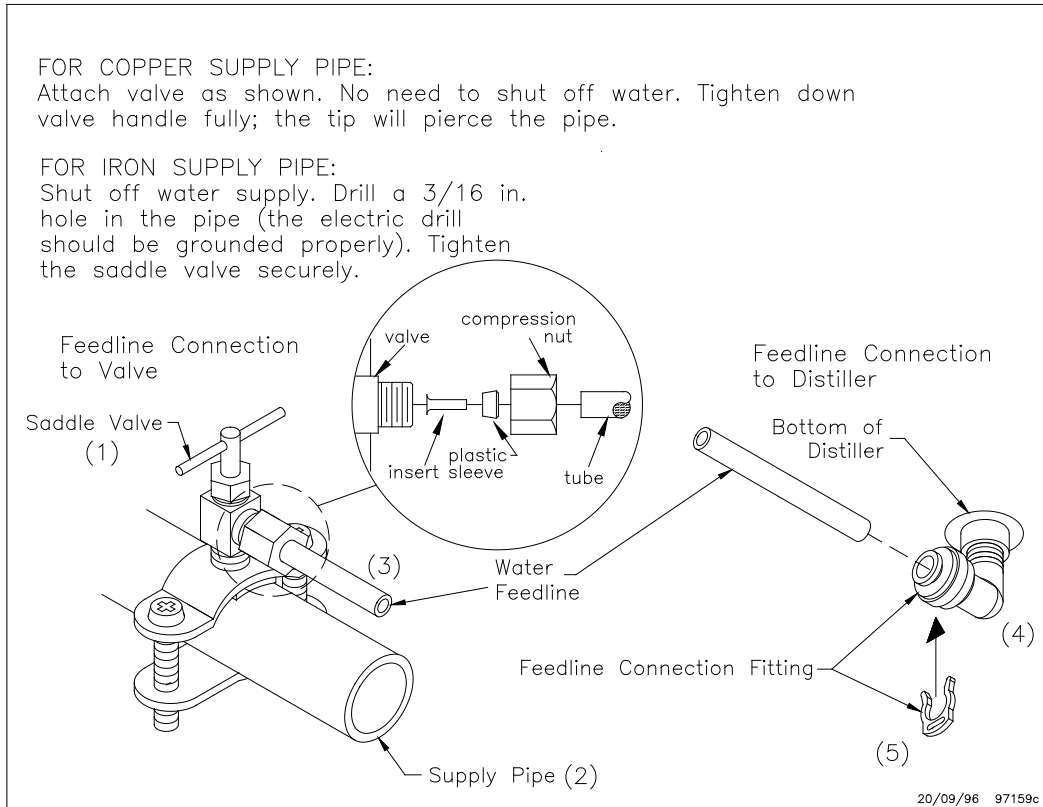
1. Connect the 5-prong Amp plug from the storage tank to the rear bottom of the distiller head, as shown below. This completes the power connection to the storage tank, distiller head and automatic low level control.



Automatic Water Feed Line

This section installs the Saddle Valve (a self-piercing valve) onto a pressurized water supply pipe for automatic operation. Skip this section if you intend to operate this Distiller manually.

1. Cut the water feed line square.



2. Remove red Retaining Clip(5) from Water Feed Connection(4).
3. Push water Feed Line end(3) into the distiller's Water Feed Connection(4) as far as it will go. Reinsert retaining clip(5).
4. Install Sediment Filter (if purchased). See section on Sediment Filter Installation.

5. Connect other end of Water Feed Line(3) onto saddle valve(1).

Mount saddle valve to the cold water supply pipe(2). Be sure rubber gasket is centered underneath valve bracket.

You may use the output line from a water softener in your home, if available – this may make cleaning and maintaining the Distiller easier.

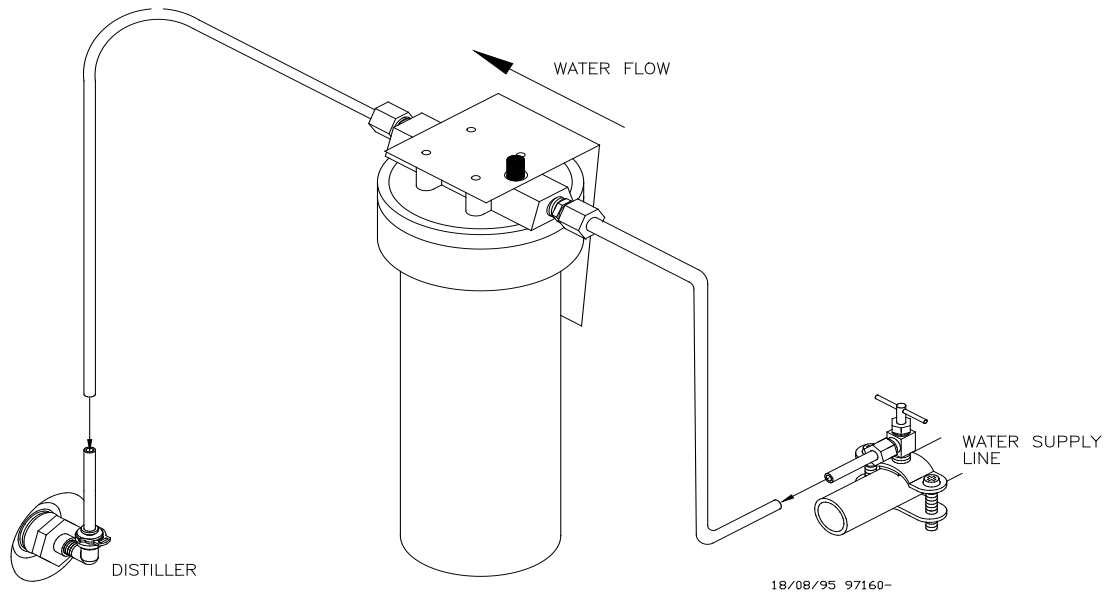
*Use of the hot water supply from a hot water heater is **not recommended**, because there is little benefit since the Distiller draws very small quantities of water at a time, and sediment and scale may plug water supply line.*

6. When mounting on iron pipe, turn in valve handle first so that self piercing tip protrudes through rubber gasket. Turn off water supply. Align tip into pre-drilled hole on pipe.
7. Make sure the boiling tank drain valve is closed and Distiller is unplugged.
8. Tighten saddle valve handle completely to pierce pipe (Copper pipe only).
9. Open saddle valve 1 to 1-1/2 turns by turning handle counter-clockwise to allow water into distiller.
10. Iron Pipe: Turn on water supply.
11. Check for leaks.

Sediment Filter (Option) Installation

A sediment filter is used when problems with coarse particles are present in the raw water supply. Coarse particles such as sand can make cleaning difficult, and are prone to plugging or jamming the automatic water feed system inside the Distiller. This may cause over filling of the Boiling Tank.

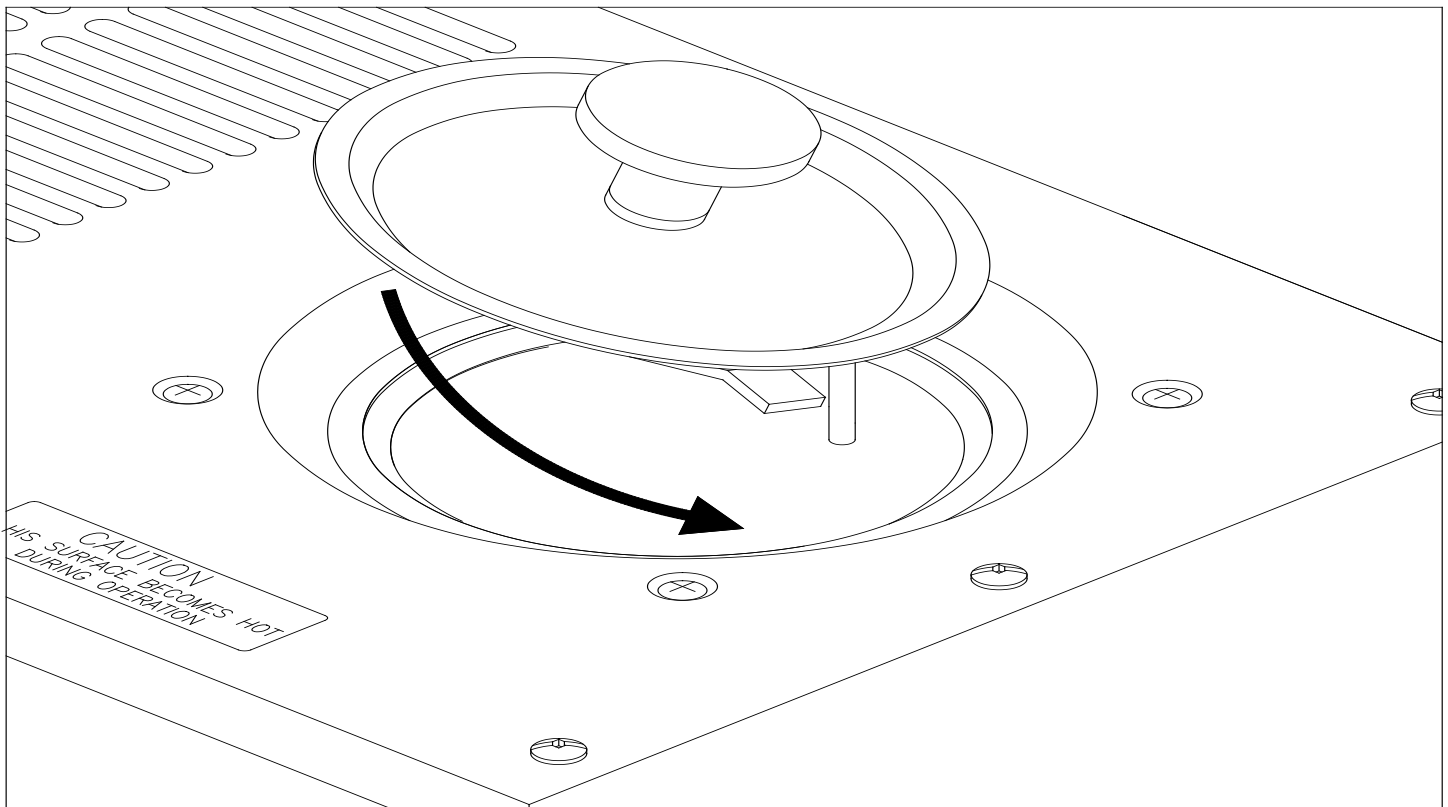
Contact your Dealer for more information on Sediment filters.



Follow instructions provided with the Sediment Filter to complete installation.

Boiling Tank Lid

1. Remove any protective plastic coating (white or clear blue) from lid.
2. Loosen the Lid Knob (turn counter-clockwise). Tip the bar at the bottom.
3. Slip bar under the rim of Boiling Tank opening.
4. Center Lid Knob over the opening and tighten. This will need to be removed each time the distiller is cleaned or operated manually.



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Final Assembly

1. Make sure all switches (Water, Fan, Power, and Auto-Drain power) are turned OFF.
2. Your Distiller is now ready to produce distilled water. Please read section on Operation thoroughly before operating Distiller.

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Operation

This Distiller is designed to operate automatically, which is perfect for most installations. It can also be run manually – when moved for portable use or when a pressurized water supply is not available.

Before operating Distiller for the first time, please read the safety precautions and Distiller Controls, and perform the following Before-Operation checks and Initial Sterilization procedure.

Safety Precautions

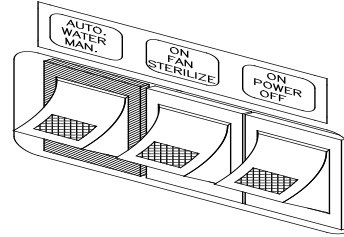
1. Always unplug Distiller from power source before servicing.
2. If the electrical cord becomes damaged or cut, have it changed immediately!
3. Operate indoors. Do not expose the Distiller to any natural elements (rain, sun, snow).
4. This Distiller is air-cooled. *Do not restrict air-flow or place inside a closet or cupboard to operate.*
5. Distiller must be plugged directly into a firm fitting and grounded wall receptacle. Extension cords must only be used during assembly and for temporary installations. (see section Distiller Information for power requirements)

Controls

There are three (3) switches located on the front of the distiller that allow you to control all functions of the distiller:

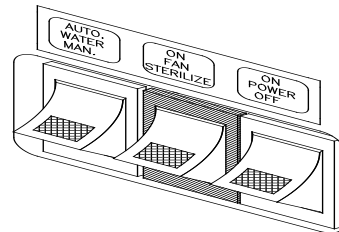
Water Supply – "Automatic / Manual"

- Blue lens color.
- Normally turned to AUTOMATIC (for automatic operation).
- Allows water from water supply pipe to enter Boiling Tank to be distilled.
- Turn OFF whenever operating Distiller without water feed line operating (manual operation).
- Switch illuminates when raw water is entering Boiling Tank to be distilled. Normally, switch will occasionally illuminate for a short period when water level in Boiling Tank is low, and light will remain off until more water is required.



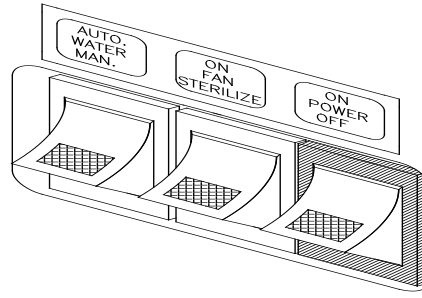
Fan – "ON / Sterilize"

- Clear lens color, illuminates amber.
- Normally turned ON.
- Supplies power to cooling fan if Holding Tank level is 2/3 full or less.
- Turn to STERILIZE (OFF) only when performing a sterilization process.
- Switch illuminates when Holding Tank needs filling. Fan will start running, and distillation will begin. Switch light will remain off when Holding Tank is full, or when there is not enough water in the Boiling Tank to operate.



Power – "ON / OFF"

- Red lens color.
- Normally turned ON. Controls power to entire Distiller.
- Turn OFF to stop operation of Distiller.
- Illuminates whenever switch is turned ON. Remains illuminated even when Distiller is not operating.
- Power will remain to Pump and Auto-Drain even with Power switch OFF - **Unplug Distiller before servicing.**



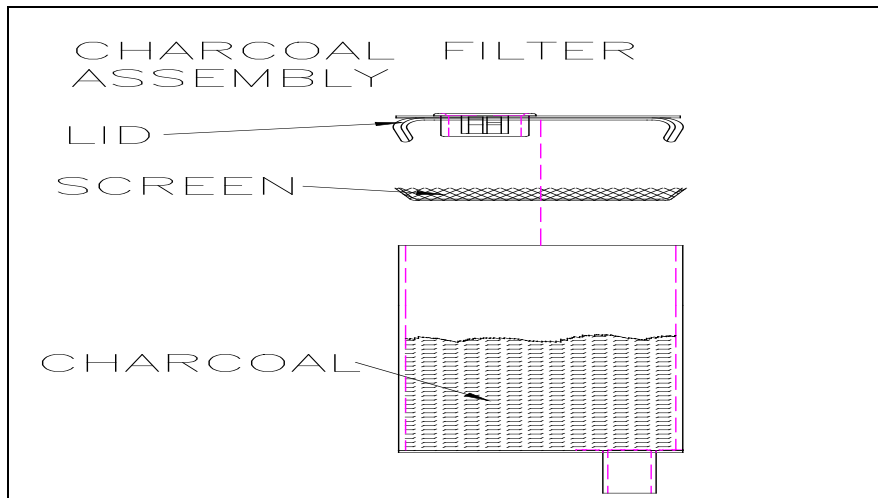
Before Operating

After installing a new Distiller, it is a good idea to check its operation and look for any leaks or other problems.

1. Ensure Saddle Valve on Water Supply Pipe is turned ON (counter-clockwise).
2. Make sure control switches are turned off (down): Water to MANUAL, Fan to STERILIZE, Power to OFF, and Auto-Drain Power to OFF(if purchased).
3. Plug in Distiller, turn Power Switch to ON: Red light on Power switch should illuminate.
4. Check for leaks around Saddle Valve on Supply pipe, and around the Water Solenoid on Distiller.
5. Turn Water switch to AUTOMATIC and Fan switch to ON. Fan should start, and water should enter boiling tank (open Boiler Lid to check).
6. All switches should be illuminated.
7. Turn off (down) Water, Fan, and Power switches.

Initial Sterilization

1. Fill the Boiling Tank 2/3 full with water (manually with pail, or automatically by turning on Power and Water switches for a minute until Water Supply switch is not illuminated).
2. Ensure the Boiling Tank Lid is back on and snug.
3. Loosen, but do not remove Holding Tank Lid to allow steam to escape.
4. Turn ON the Power switch, and set the Fan switch to the STERILIZE position. The Water switch can remain AUTOMATIC if you have installed the Water Feed line.
5. Allow the distiller to run 30-40 minutes (or until the Distiller shuts itself off – manual fill). **WARNING: The Distiller, empty Charcoal Filter, and Holding Tank will get VERY hot (this is normal).**
6. Turn Power Switch OFF and Water Supply to MANUAL (off). Allow to cool 1 hour.
7. Drain any water from Holding Tank.

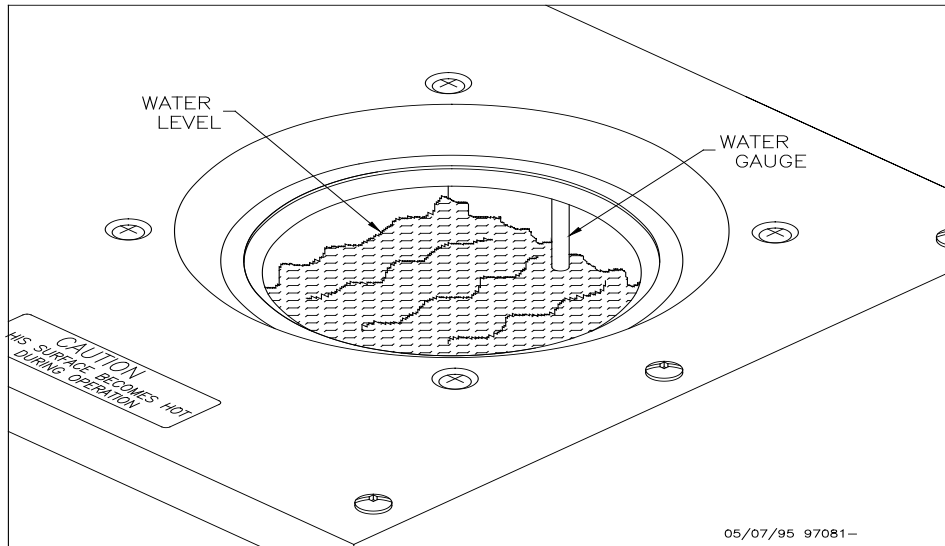


8. Remove Charcoal Filter. Separate Filter Lid from Filter Body.
9. Remove top screen.
10. Fill Filter 2/3 full of new coconut charcoal.
11. Place Screen above charcoal by using your fingers to evenly slide the screen down until it is placed against the charcoal.
12. Rinse with water (distilled, if available) until the water runs clear (one or two cupfuls).
13. Press Filter Lid onto Filter Body.
14. Place Charcoal Filter into Distiller by lifting the front left corner of Distiller head just enough to insert Condenser Coil exit into Filter Lid. Insert Filter Exit into plastic bushing on top of Holding Tank.
15. Tighten Holding Tank Lid until snug.
16. The Distiller is now sterilized and ready to produce distilled water.

Manual Operation

Please go to the next section: 'Automatic Operation' if your distiller is set up for automatic feed.

1. Remove Boiling Tank lid. Fill with water until the water level reaches the bottom of the Water Gauge. **Caution: Filling water above the bottom of the water gauge as shown below may allow un-distilled water to flow into the Condensing Coil and into the Holding Tank.**



2. Place boiling tank lid onto Distiller and tighten lid knob. Do not over tighten - it only needs to be snug enough to prevent steam from leaking.
3. Turn fan switch to ON position. Water fill switch should be in the MANUAL position.
4. The Distiller will now distill the water into the Holding Tank. Distillation will stop when the Boiler is about 1/3 full (water level is just above Heating Element) or when the Holding Tank is full.

5. When the distiller has stopped, refill the Boiling Tank with water (Caution: Distiller remains HOT for several hours). Fan switch (white) will illuminate only when Distiller is making water. Power Switch (red) will remain on whenever it is turned ON and Distiller is plugged in.
6. To help prevent a concentration of chemicals, pollutants and other material from building up in the Boiling Tank, drain the Boiler Tank after at least every 10 gallons distilled using the Impurities Drain Valve and a Pail.

Automatic Operation

1. Ensure Boiling Tank and Holding Tank lids are on and snug.
2. Turn ON Power, Fan, and Water switches.
3. Water fill switch (blue) will illuminate only when the distiller is filling the boiling tank with water and then it will turn off.
4. Fan switch (white) will illuminate only when Distiller is distilling water.
5. Power switch (red) will be illuminated whenever the distiller is plugged into a power source.
6. Distiller will continually fill Boiling tank and run until the Holding Tank is full.
7. When approximately 1/3 of the distilled water is removed from the Holding Tank, the Distiller will automatically start up to refill the Holding Tank.
8. To help prevent a concentration of chemicals, pollutants and other material from building up in the Boiling Tank, drain the Boiler Tank after at least every 10 gallons distilled using the Impurities Drain Valve and a Pail. Alternatively, this can be done automatically with an optional electronic Auto-drain (see section on Supplies & Accessories).

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Maintenance

With proper care, your Polar Bear Water Distiller should give you years of trouble free distilled water. Regular maintenance will help ensure that your Distiller will provide top quality distilled water.

Cleaning the Boiling Tank

The most important aspect of Distiller maintenance is keeping the Boiling Tank free from the build-up of contaminants and scale. These impurities removed from the water during distillation collect inside the Boiling Tank.

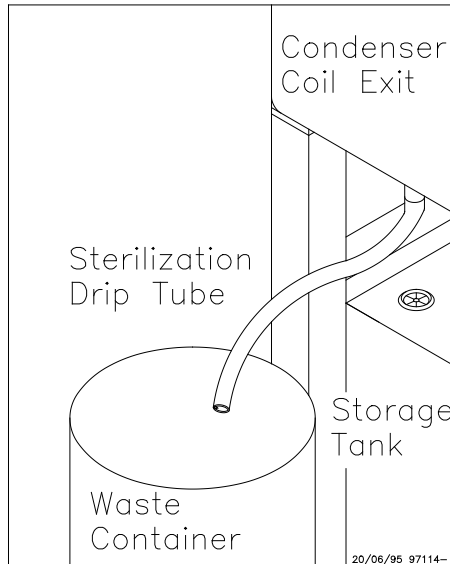
To remove these impurities:

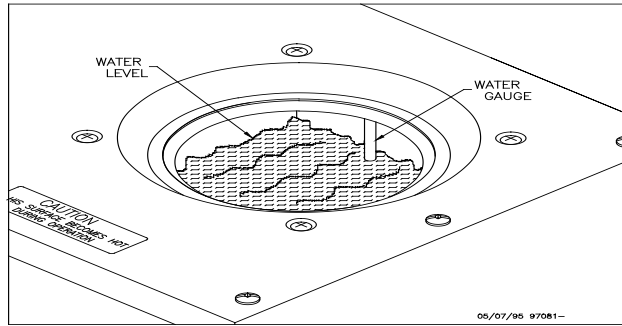
1. After every 10 gallons distilled, drain the boiling tank with the Impurities Drain Valve into the drain or a pail. This step is not necessary when an Auto-Drain is installed, however, you must still check the condition of the boiler as in the next step:
2. Every two weeks or 50 gallons distilled, and when Distiller is cool, observe the inside of boiler (remove Boiling Tank Lid). Walls of boiler and especially the heating element should be relatively clear of scale (less than 1/8" build up). If build up is excessive, use the following procedure: **'Cleaning - Using P.B.W.D. Cleaner and Descaler'**.
 - When cleaning we recommend that you use our industrial cleaner, **P.B.W.D. Cleaner & Descaler**. A sample is included with every new Distiller.
 - *Do not use an abrasive cleaner or steel wool cleaning pads.* Plastic pads may be used.
 - The sample of the Descaler enclosed with the distiller should last for approximately six cleanings.

Cleaning the Boiling Tank - Using P.B.W.D. Cleaner and Descaler

This procedure requires the use of our Cleaner and Descaler – a corrosive and poisonous substance. Read safety precautions on package before proceeding.

1. Turn the Power Switch to the OFF position. Allow Distiller to cool.
2. Remove the Boiling Tank Lid.
3. Drain the Boiling Tank by opening Impurities Drain Valve (or pressing Manual Drain Switch on Auto-Drain). Rinse and drain.
4. Remove all loose scale build-up, if any, inside the Boiling Tank.
5. Close the Drain Valve (or release Manual Drain switch on Auto-Drain).
6. Remove Charcoal Filter and install Sterilization Drip Tube as shown.
7. Fill the Boiling Tank half-full of tap water (preferably hot from a kettle).
8. **SLOWLY** add 3 level tablespoons of P.B.W.D. Cleaner and Descaler.
9. Mix well to dissolve the cleaner.
10. Fill Boiling Tank with hot water to bottom of Water level gauge only. *Do not over-fill boiling tank!*





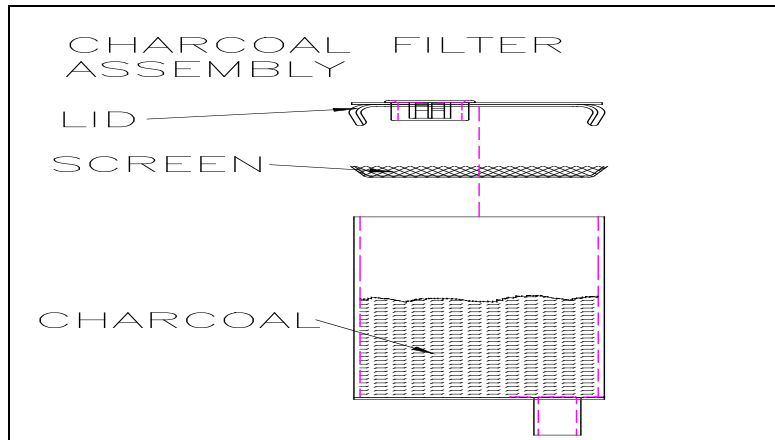
11. Let solution stand overnight, or until mineral content softens. Leave *boiling tank lid open during cleaning so that Descaler fumes do not enter the cooling (Condensing) coil.*

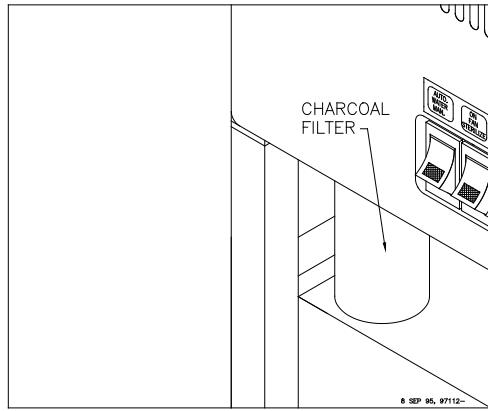
12. The next morning, or when mineral content is soft, drain the Boiling Tank. Repeat cleaning if necessary.
13. Rinse Boiler **THOROUGHLY** using warm tap water: Fill the Boiler with water to bottom of Water Level Gauge, stir gently, drain. Repeat several times.
14. Replace Boiling tank lid.
15. Ensure Sterilization Drip Tube is on Distiller as shown.
16. Turn on Power Switch, set the Fan switch to STERILIZE.
17. Allow the Distiller to run 30-40 minutes. Steam will escape into the waste container.
18. Replace Charcoal Filter, first replacing charcoal if necessary (see section: Charcoal Replacement).
19. The Distiller is now cleaned, and ready to produce distilled water.

Charcoal Replacement

Replace charcoal in filter every two months or every 100 gallons of distilled water.

1. Remove Charcoal Filter.
2. Over a sink, remove Lid and top stainless steel screen. Empty charcoal from filter and rinse.
3. Fill filter 2/3 full of new coconut charcoal.
4. Place Screen above charcoal by using your fingers to evenly slide the screen down until it is placed against charcoal.
5. Rinse with water (distilled, if available) until the water runs clear (one or two cupfuls).
6. Press Filter Lid onto Filter Body.
7. Replace charcoal in filter every two months or every 100 gallons of distilled water.





8. Place Charcoal Filter into Distiller by lifting the front left corner of Distiller Head just enough to insert Condenser Coil exit into Filter Lid. Insert Filter Exit into plastic bushing on top of Holding Tank.

External Charcoal Filter Replacement

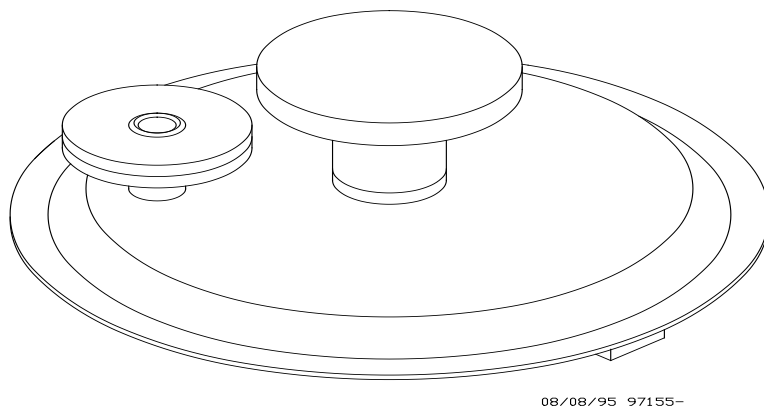
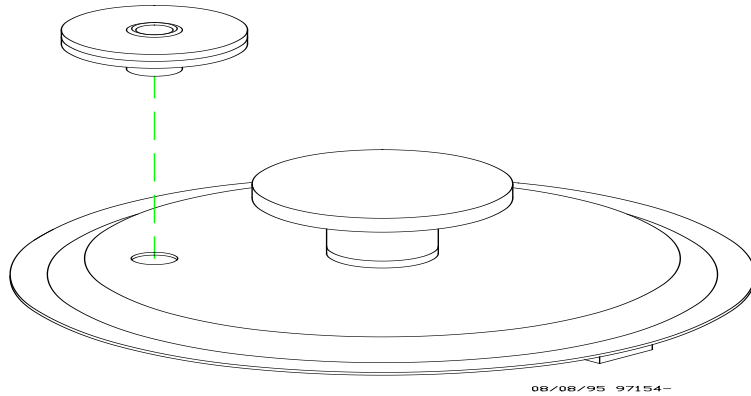
External Charcoal Filters are replaced depending on the volume of water used. Refer to the instructions provided with the Charcoal Filter.

Sediment Filter Replacement

Sediment Filters are replaced depending on the volume of water used, and the quality of raw water supply. Refer to the instructions provided with the Sediment Filter.

Air Filter Replacement

Replace the Air Filter on the Holding Tank Lid every six months.



1. Remove Holding Tank Lid.
2. Pull out Air Filter while turning gently.
3. Press new Air Filter gently into hole in Holding Tank Lid.
4. Replace Holding Tank Lid onto Holding Tank.

Steam Sterilization

This procedure should be performed whenever you wish to clean the Holding Tank of your Distiller, after any maintenance, or if there are any problems with the quality of your distilled water.

Before Sterilization:

IF DISTILLER BOILING TANK HAS JUST BEEN CLEANED WITH P.B.W.D. CLEANER AND DESCALER, ENSURE BOILER TANK HAS BEEN RINSED AND THAT DISTILLER HAS BEEN CLEANED WITH THE STERILIZATION DRIP TUBE AS DESCRIBED IN THE PROCEDURE: 'CLEANING - USING P.B.W.D. CLEANER AND DESCALER'

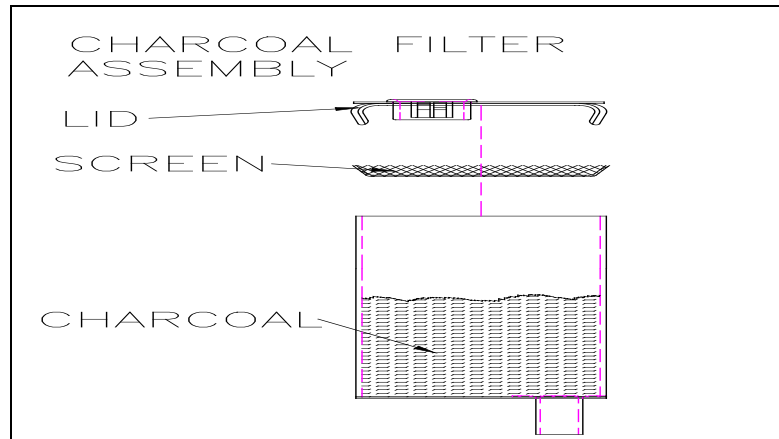
To prepare your Distiller for Steam Sterilization:

1. Ensure Boiler tank is clean – see section: Cleaning.
2. Place **EMPTY** charcoal filter on Distiller.
3. Drain Holding Tank.

Performing Steam Sterilization:

1. Fill the Boiling Tank 2/3 full with water (manually with pail, or automatically by turning on Power and Water switches for a minute until Water Supply switch is not illuminated).
2. Ensure the Boiling Tank Lid is back on and snug.
3. Loosen, but do not remove Holding Tank Lid to allow steam to escape.
4. Turn ON the Power switch, and set the Fan switch to the STERILIZE position. The Water switch can remain AUTOMATIC if you have installed the Water Feed line.

5. Allow the distiller to run 30-40 minutes (or until the Distiller shuts itself off – manual fill). **WARNING: The Distiller, empty Charcoal Filter, and Holding Tank will get VERY hot (this is normal).**
6. Turn Power Switch OFF and Water Supply to MANUAL (off). Allow to cool 1 hour.
7. Drain any water from Holding Tank.
8. Remove Charcoal Filter. Separate Filter Lid from Filter Body.
9. Remove top screen.
10. Fill Filter 2/3 full of new coconut charcoal.
11. Place Screen on top of charcoal by using your fingers to evenly slide the screen until it is placed firmly against the charcoal.
12. Rinse with water (distilled, if available) until the water runs clear (one or two cupfuls).
13. Press Filter Lid onto Filter Body.
14. Place Filter onto Distiller by lifting up corner of distiller to separate it from the Holding Tank. Twist Filter while inserting into grommet in Holding Tank.
15. Tighten Holding Tank Lid until snug.
16. The Distiller is now sterilized and ready to produce distilled water.



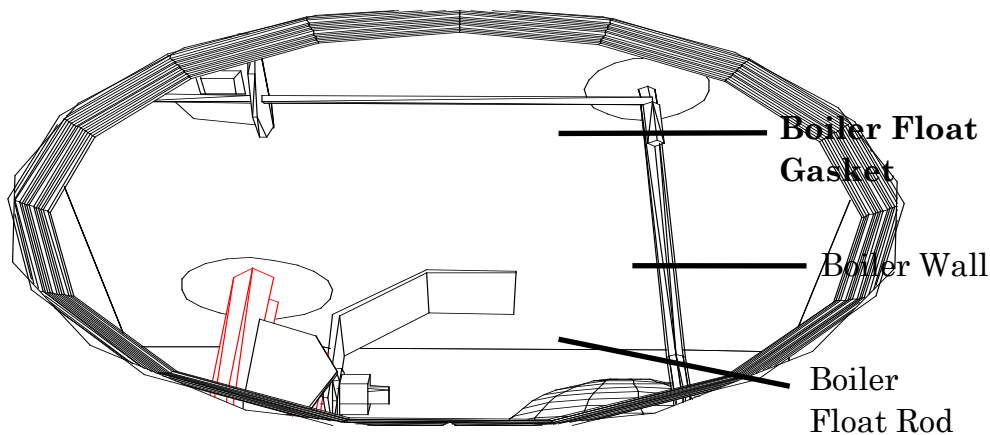
Boiler Float Gasket

The Boiler Float inside the Distiller has a gasket on the wall of the Boiler to seal in water. Since the Boiler is subject to high temperatures for long periods of time, this gasket will require replacing every three to five years.

Inspection of this gasket should be done every month or two – inspecting during cleaning is an excellent time!

Inspect the Boiler Float Gasket:

1. Turn OFF Distiller and unplug.
2. When Distiller is cool, remove Boiler Tank Lid. Looking inside the Boiler Lid hole from the rear of the Distiller towards the front, you will see the following:



3. Look for float and rod connecting it to boiler wall (towards front of Distiller inside boiler). ~~Boiler Float~~
4. You will see where Boiler Float rod passes through Boiler wall. On boiler wall you will be able to see or feel the Boiler Float Gasket.

5. Gasket should feel pliable and should not appear to be cracked or have any visible holes.

Should Gasket require replacing, contact your dealer. Polar Bear recommends that gasket replacement be done by qualified personnel only.

Troubleshooting

Problem: Water tastes 'funny'.

- Causes:**
1. Storage container needs to be cleaned or changed – especially if distilled water is drawn from Distiller and cooled in a fridge.
 2. Boiling Tank is badly scaled with impurities – see section on Maintenance, Cleaning.
 3. Auto-Drain has malfunctioned. Check Boiling tank for scale build up – see section on Maintenance, Cleaning.
 4. Boiling Tank has overfilled: Open Boiler Tank and observe that Boiler water level is below water gauge. If water level is at top of Boiler, Boiler Float mechanism has failed and undistilled water has flowed into Holding Tank.
 5. If water is spilling out onto the floor, and Boiler Tank is also overfilled, the Water Solenoid is defective and needs replacement.
 6. Boiling tank may have been overfilled during cleaning, or cleaning procedure was not completed. This can allow dissolved solids to pass through the Condenser and into the Holding Tank. Drain the Holding Tank, rinse, and follow the Sterilization procedure in the section on Maintenance.

Problem: Boiling tank will not fill with water automatically.

- Causes:**
1. Water Fill switch is turned to MANUAL or Power switch is OFF.
 2. The Saddle Valve is turned off.
 3. Check for kinks in the Direct Feed Line.
 4. Float inside the Boiling Tank may be stuck.
 5. If the Distiller is buzzing (calling for water) then the water supply is plugged. Turn off the water (saddle valve) and disconnect Direct Feed Line from Distiller. Momentarily turn on water – if water flows out of Direct Feed Line problem is in Distiller. If no water flows, attempt to clear saddle valve by closing completely and reopening.
 6. Ensure water feed opening inside boiler is not scaled over.

Problem: **Boiling Tank is getting water but not filling or holding water & Distiller has Auto-Drain installed.**

Causes: 1. Solenoid Drain Valve is stuck open or is defective: Attempt to clear valve by depressing Manual drain switch several times. Valve should be heard every time it is cycled.

Problem: **Fan Operates, little or no water is distilled.**

Causes: 1. Boiler Tank Lid is loose or Boiler Tank Lid Gasket requires replacement.
2. Heating element may be defective.
3. Reset button may be defective.
4. Water supply plugged. See: Boiling Tank will not fill.

Problem: **Distiller does not operate.**

Causes: 1. Main Power switch on Distiller is in OFF position.
2. Distiller is not plugged in securely or circuit breaker is OFF.
3. Reset button needs to be reset. Distiller must be cool before the button can be reset. This reset button is for your safety. It is designed to stop all operation should the distiller overheat. This will happen if the water level gets too low in the boiling tank. If at any time the reset button needs resetting, it indicates that the float switch mechanism may need adjusting.
4. Reset button may need replacing.

Problem: **Fan does not operate automatically.**

Causes: 1. Fan switch is in the STERILIZE position.
2. Fan motor may be defective.
3. Holding tank is full – Distiller has shut itself off.

Problem: Steam escapes through charcoal filter or Charcoal Filter is extremely hot.

- Causes:**
1. Fan switch is in the STERILIZE position.
 2. Fan may have dropped on the motor shaft preventing proper cooling. Steam will be produced through condenser coil instead of water.
 3. Condensing Coil may have moved down onto Fan Blade.
 4. Fan motor may be defective.

Problem: Steam or water escapes from volatile gas release vent on top of distiller.

- Causes:**
1. The condensing coil has one small hole drilled in the top, located inside the Distiller at the center rear (facing the Distiller). This hole is not a defect, but rather it is provided to release certain volatile gases. Should some steam escape from this hole, there is no cause for concern.

Problem: Water is overflowing from the Charcoal Filter.

- Causes:**
1. Charcoal filter is more than 2/3 full of charcoal. Ensure there is a small air gap between charcoal and top Filter Screen.
 2. Charcoal is old and 'caked up'. Replace with new charcoal.
 3. Charcoal Filter grains are too fine. Use Polar Bear charcoal to ensure correct grain size.
 4. Water solenoid is stuck open.

Problem: Loud noises occur in my water pipes whenever the Distiller fills with water, or Water light flashes on & off rapidly due to a bouncing float in Boiler Tank.

- Causes:**
1. Water flow through Direct Feed Line is too great: Turn down Saddle Valve so that water flows slower into boiler. Water light should come on for 15-30 seconds at a time.

Should problems arise that are not covered in this guide, please contact your local qualified Polar Bear service person.

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Water Testing Program

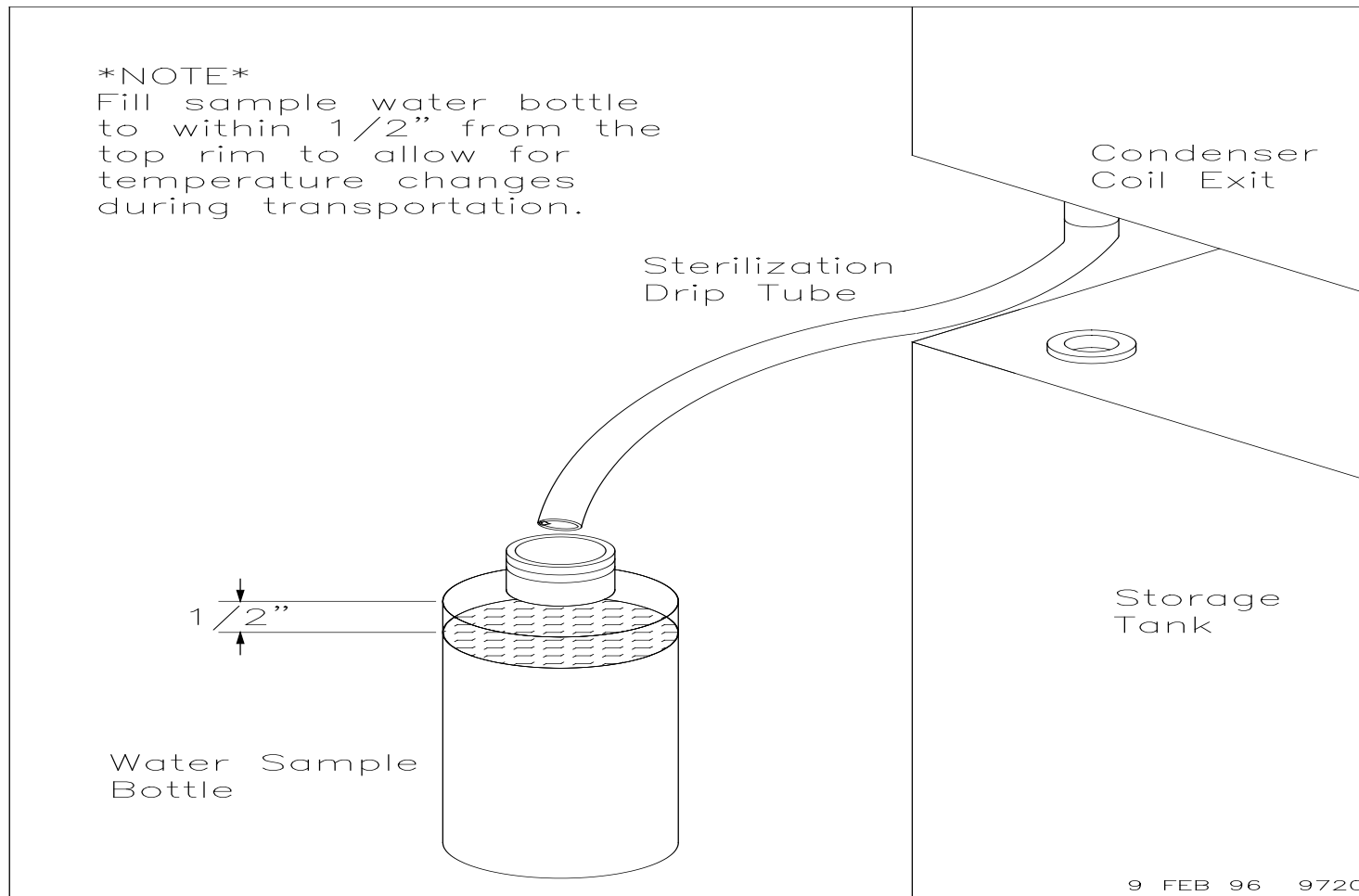
In a continuing effort to provide the purest drinking water possible, Polar Bear is proud to offer you a water testing program. Choosing to be part of this program will ensure your investment runs trouble free and you receive the quality of water promised. The Polar Bear testing program is available through all of our distributors across Canada and the USA and where all products are sold Internationally. By sending a distilled water sample in at least every six months for analysis, Polar Bear can determine whether your machine is operating properly or if it may require cleaning or repair.

A water sample bottle is enclosed with your Polar Bear Water Distiller as well as a bubble-pack envelope.

Please follow the following procedure:

1. Ensure sample bottle is clean and free of debris as well as structurally intact (no holes or leaks).
2. The charcoal filter must first be removed. (see owners manual; use **caution** as canister may be hot). Attach sterilization drip tube to nipple. Run the tube into the small water bottle until 3/4 full. Do not completely fill the bottle. Leave some room in bottle for water expansion in case of freezing temperatures during shipping.(see illustration on next page). Place charcoal filter back on unit following procedure.
3. Firmly screw top on sample bottle and place bottle in bubble pack envelope.
4. Send package to your local authorized Polar Bear Dealer, Polar Bear head office or Polar Bear USA. Please ensure that a return name and address is clearly marked so that the test results and a new Water sample kit can be sent to you. Enclose appropriate payment and send package prepaid by mail or courier.

Results of the water test will be sent to you within approximately three weeks. Along with the results, a new water sample kit will arrive in the mail. If you would like your water sample analysis to be sent via fax, please indicate on form with kit.



Note: This service is in accordance with NSF (National Sanitation Foundation) Standard 62, Drinking Water Distillation Systems, and must be completed at least once every six months.



Supplies & Accessories

P.B.W.D. CLEANER & DESCALER

Not only for the Distiller Boiling Tank, use wherever scale is a problem: In water distillers, coffee pots, dishwashers, humidifiers and most metal products. Two to three tablespoons per gallon of water does the job! More Descaler may be used if scale build-up is excessive. Available in 600 gram or 1.2 Kg. jars.

REPLACEMENT COCONUT CHARCOAL

Activated coconut charcoal has the ability to absorb over 50% its own weight in gases and odors. Non-toxic. The coconut charcoal will not breed bacteria, as only distilled water passes through the filter. Made from 100% pure coconut shells. *Do not use aquarium charcoal!* Available in 250 gram and 500 gram jars.

POLAR BRITE STAINLESS STEEL POLISH

An odorless liquid polish for stainless steel. Use on outside surfaces of your Distiller.

PUMP AND FAUCET KIT

Provides a convenient source of distilled water directly from your distiller to a tap in the kitchen. Pump can also be connected to ice makers, water dispensers, and humidifiers.

AUTO-DRAIN KIT

An electronic Auto-drain provides automatic draining of your Boiling Tank. Can be set to drain in 3, 6, 12, or 24 hour intervals depending on the total dissolved solids content in your particular source water. An Auto-Drain does **not** clean the Boiling tank, but it does make cleanings easier and less frequent.

PLASTIC 5 GALLON BOTTLE (c/w handle and screw top lid)

This bottle provides easy transport of distilled water and fits into the top of available water coolers.

SEDIMENT FILTERS

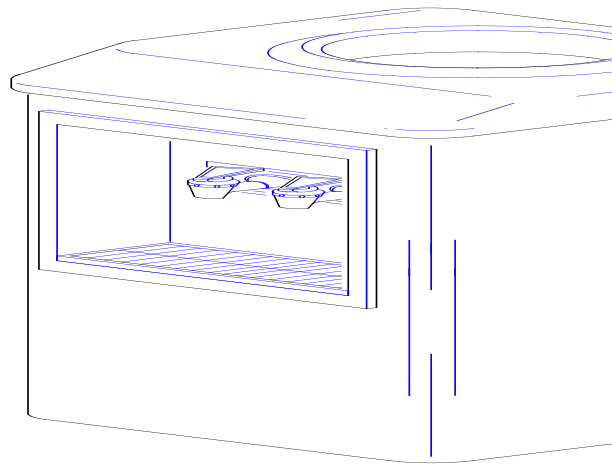
Sediment filters help prevent the plugging and/or jamming of Water Solenoid Valves.

EXTERNAL CHARCOAL FILTERS

External Charcoal Filters have a greater capacity than the standard Charcoal Filter supplied with your Distiller. They require changing less often, and are well suited for high volume installations.

WATER COOLER

Water coolers are available through your water distiller dealer. They are available in room temperature, cool and cold, and hot & cold models.



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Technical Information

The following information can be used for repairing the Distiller, and when contacting your Polar Bear dealer to order replacement parts.

WARNING:

There are exposed high voltage and high temperature areas inside the water Distiller. Do not operate while covers are removed. Repairs must be made by qualified personnel only.

Wiring List

Main Wiring

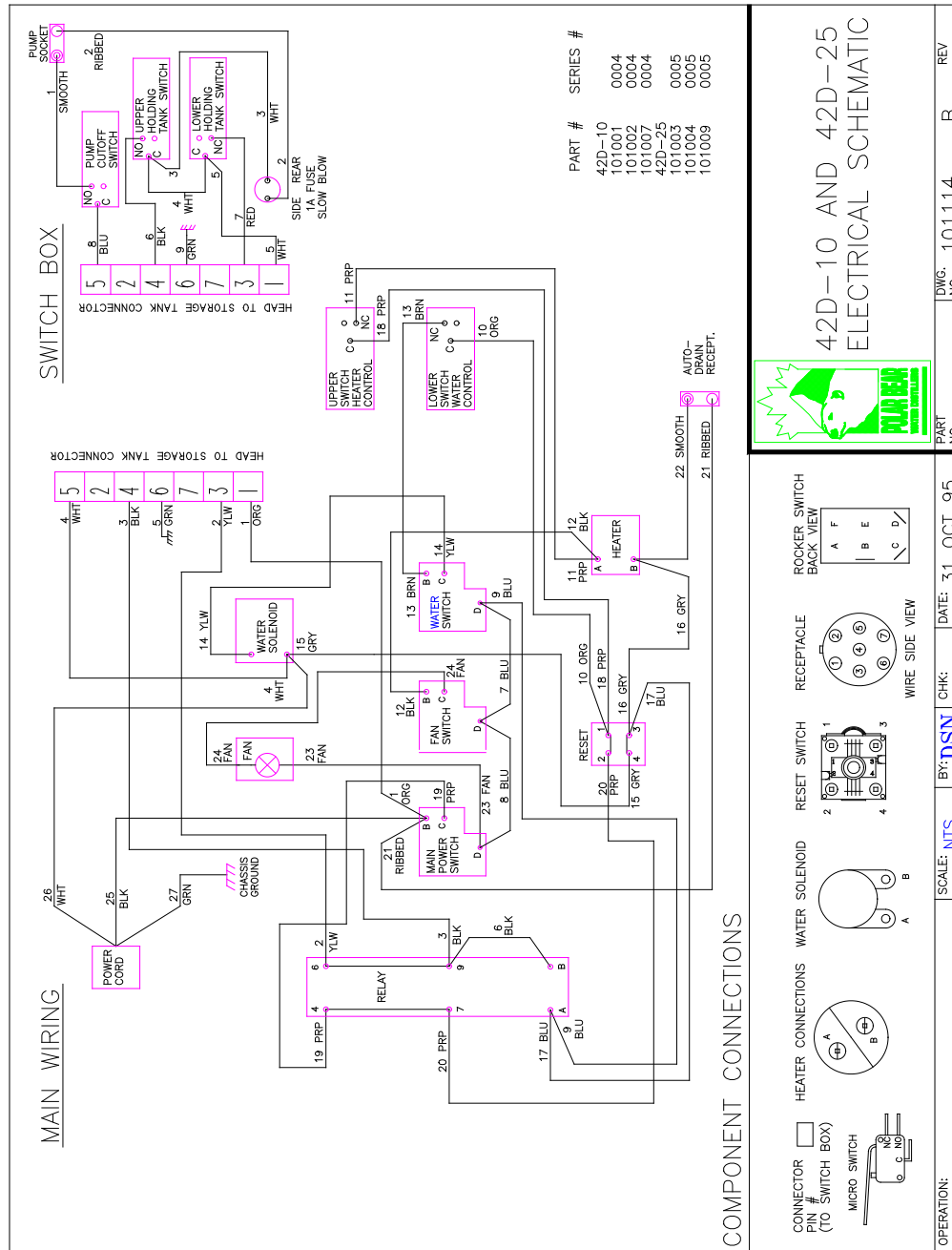
#	Part #	Color	Ga.	Length in. mm	From Conn. Part #	To Conn. Part #	From Location	To Location
1	101156	ORG	16	20 508	F/M PIN 60014	PIGG 60016	CONN #1	MAIN PWR SW #B
2	101157	YLW	16	22 559	F/M PIN 60014	F250 60001	CONN #3	RELAY #6
3	101158	BLK	16	22 559	F/M PIN 60014	PIGG 60016	CONN #4	RELAY #9
4	100319	WHT	16	6.5 165	F/M PIN 60014	PIGG 60016	CONN #5	WATER SOLENOID B
5	100647	GRN	16	6.5 165	F/M PIN 60014	RING 60002	CONN #6	GROUND STUD
6	100321	BLK	16	3 76	F250 60001	F250 60001	RELAY #9	RELAY #B
7	100322	BLU	16	3 76	PIGG 60016	PIGG 60016	WATER SW #D	FAN SW #D
8	100323	BLU	16	3 76	PIGG 60016	F250 60001	PWR SW #D	FAN SW #D
9	100324	BLU	16	10 254	PIGG 60016	F250 60001	RELAY #A	WATER SW #D
10	101159	ORG	16	7 178	SPADE 60012	F187 60011	RESET #1	BOT MSW #C (Water)
11	101160	PRP	14	7 178	F187 60011	SPADE 60012	TOP MSW #NC(Heater)	HEATER #A
12	101161	BLK	16	15 381	SPADE 60012	F250 60001	HEATER #A	FAN SW #B
13	101162	BRN	16	18 457	F187 60011	F250 60001	BOT MSW #NC (Water)	WATER SW #B
14	101163	YLW	16	21 533	F250 60001	F250 60001	WATER SW #C	WATER SOLENOID A
15	101164	GRY	14	22.5 572	SPADE 60012	PIGG 60016	RESET #4	WATER SOLENOID B
16	101165	GRY	14	4 102	SPADE 60012	SPADE 60012	HEATER #B	RESET #3
17	100648	BLU	16	15 381	SPADE 60012	F250 60001	RESET #3	RELAY #A
18	101166	PRP	14	9 229	SPADE 60012	F187 60011	RESET #1	TOP MSW #C (Heater)
19	101167	PRP	14	9.5 241	F250 60001	F250 60001	MAIN PWR SW #C	RELAY #4
20	101168	PRP	14	13 330	F250 60001	SPADE 60012	RELAY #7	RESET #2
21	101145	ORG	16	14 356	BUTT 60019	PIGG 60016	AUTODRAIN RIBBED 7"(178mm)	MAIN PWR SW #B
22	101145		18			SPADE 60012	AUTODRAIN SMOOTH 7" (178mm)	HEATER #B
23	101199 (110V) 101200 (220V)		18			F250 60010	FAN 7"(178mm)	FAN SW #C
24	101199 (110V) 101200 (220V)		18			F250 60010	FAN 7" (178mm)	PWR SW #D
25	101104		16			F250 60001	PWR CORD BLK 24"(610mm)	MAIN PWR SW #B
26	101104		16			F250 60001	PWR CORD WHT 11"(279mm)	WATER SOLENOID #B
27	101104		16			RING 60002	PWR CORD GRN 3.5"(89mm)	GROUND STUD

Switch Box

1	100372		18			F187X 60028	AUTODRAIN SMOOTH 6.5"(165mm)	PUMP SHUTOFF SW (No)
2	100372		18			FLAG 60031	AUTODRAIN RIBBED 2.5"(64mm)	FUSE SIDE TERMINAL
3	100338	WHT	16	11.5 292	FLAG 60023	F187X 60058	FUSE END TERMINAL	UPPER LEVEL MSW (C)
4	100339	WHT	16	3.5 89	F187X 60058	(same)	LOWER LEVEL MSW (C)	(same)
5	100336	WHT	18	8 203	(same)	M PIN 60015	(same)	CONN #1
6	100336	BLK	18	9 229	M PIN 60015	F187 60061	CONN #4	UPPER LEVEL MSW(NO)
7	100336	RED	18	8 203	M PIN 60015	F187 60061	CONN #3	LOWER LEVEL MSW(NC)
8	100336	BLU	18	8.5 216	M PIN 60015	F187 60061	CONN #5	PUMP SHUTOFF SW (C)
9	100336	GRN	18	2 51	M PIN 60015	RING 60020	CONN #6	GROUND SCREW

PART #	DESCRIPTION	
60001	Receptacle, F250, 14-16 AWG	60030 Ring, #10, 10-12 AWG
60002	Ring, #10, 14-16 AWG	60031 Receptacle, F250, FLAG, 18-22 AWG
60010	Receptacle, F250, 18-22 AWG	60032 Tab, F250, 14-16 AWG
60011	Receptacle, F187, 14-16 AWG	60033 Ring, 1/4", 14-16 AWG
60012	Spade, #10, 14-16 AWG	60034 Ring, #6, 14-16 AWG
60013	Receptacle, F250, PIGGI, 18-22 AWG	60050 Tab, F250, 18-22 AWG
60014	Pin, Female	60056 Receptacle, F250, 18-22 AWG,large opening
60015	Pin, Male	60057 Receptacle, F250, 10-12 AWG
60016	Receptacle, F250, PIGGI, 14-16 AWG	60058 Receptacle, F187, 14-16 AWG,large opening
60019	Butt Splice, 14-16 AWG	60059 Tab, F250, 18-22 AWG, large opening
60020	Ring, 1/4", 18-22 AWG	60060 Ring, #10, 18-22 AWG
60023	Receptacle, F250, FLAG, 14-16 AWG	60061 Receptacle, F187, 18-22 AWG
60028	Receptacle, F187, 18-22 AWG,large opening	60062 Ring, #6, 18-22 AWG
		60025 Butt Splice, 18-22 AWG

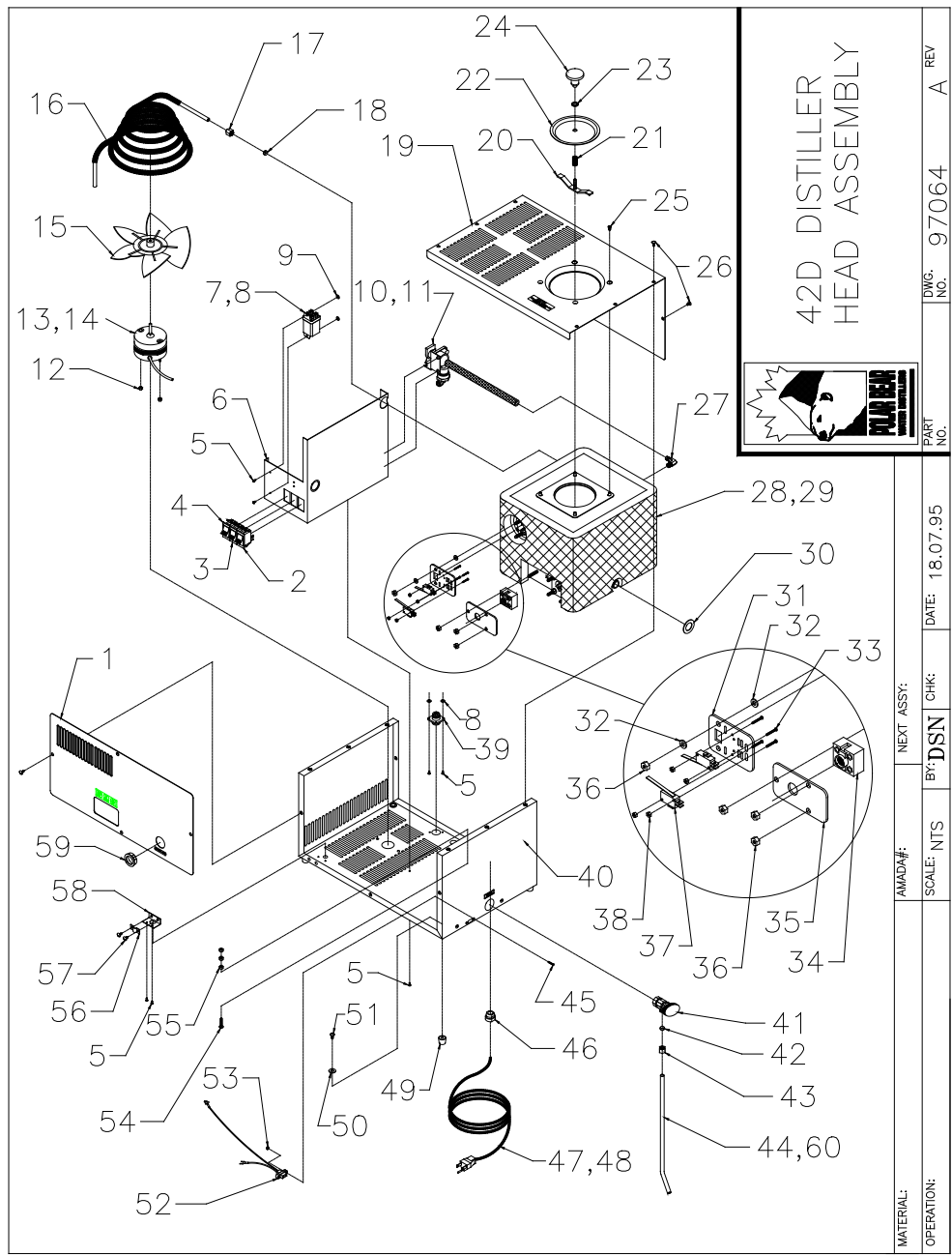
Wiring Diagram



Parts List: Head Assembly

Line	Qty	Item	Description
1	1	101102	COVER FRONT, SERIES 3, 42D
2	1 EA	102094	SWITCH, ROCK, BLU, SPST120 220V
3	1 EA	102093	SWITCH, ROCK, CLR, SPST120 220V
4	1 EA	102092	SWITCH, ROCKER, RED, SPST120 220V
5	10 EA	80004	RIVET, ALUMINUM, 1/8"X1/4"
6	1	101057	DIVIDER, MIDDLE, 42-D
7	1 EA	100129	RELAY, 120V 15A
8	1 EA	100128	RELAY, 220V 15A
9	4	15101	WASHER, FLAT, ALUM, 0.140x3/8"
10	1	100501	ASSEMBLY, SOLENOID VALVE, 120V
11	1	100526	ASSEMBLY, SOLENOID VALVE, 220V
12	2 EA	15505	NUT, KEP #8-32
13	1	101199	FAN MOTOR ASSM, 110V, 42D
14	1	101200	FAN MOTOR ASSM, 220V, 42D
15	1 EA	101061	FAN BLADE, ALUMINUM, 8"
16	1	101060	CONDENSOR COIL, 42-D
17	1	30002	NUT, COMPRESION, PLTD. BRASS
18	1 EA	30003	SLEEVE, COMPRESSION, 3/8"
19	1	101103	TOP/BACK COVER, SERIES 3, 42D
20	1	100302	B.T. T-BAR ASSEM
21	1 EA	100069	SPRING, B.T. LID
22	1	100070	LID DISC, B.T. S.S.
23	1 EA	100205	ORING, RUBBER, 1/2"IDx11/16"OD
24	1 EA	100071	KNOB, LID, PLASTIC STAMPED
25	4 EA	10123	SCREW, SS, #10-24X3/8"
26	13 EA	10109	SCREW, SHTMTL, SS, #10-12x1/2"
27	1 EA	30008	ELBOW, 90DEG, 3/8" BARB-1/8"MPT
28	1	101115	B.T., 42D, 120V, 1500W, COMPLETE
29	1	101116	B.T., 42D, 220V, 1500W, COMPLETE
30	1	15102	WASHER, FLAT, ALUM, 7/8x1-1/2"
31	1	100428	UNIVERSAL LEXAN SWITCH PLATE
32	4	15003	WASHER, FLAT, S.S., 5/16"X11/16"
33	4 EA	10105	SCREW, MACH, RND, SLOT, #4-40X3/4
34	1 EA	100122	SWITCH, BOILER TANK RESET
35	1	100119	PLATE-B.T.-LEXAN-RESET
36	5 EA	15502	NUT, HEX, 1/4", PLATED
37	2 EA	60004	MICROSWITCH, B.T. FLOAT
38	4 EA	15504	NUT, KEP, #4-40
39	1 EA	100124	CONNECTOR, 7 PIN RECEPTACLE
40	1	101101	BASE FRAME, 42D, SERIES 3
41	1 EA	100079	VALVE, ANGL STP, 1/2"FPT-3/8COMP
42	1 EA	30003	SLEEVE, COMPRESSION, 3/8"
43	1	30002	NUT, COMPRESION, PLTD. BRASS
44	1	101085	TUBE, IMPURITIES DRAIN, D-25
45	2 EA	10105	SCREW, MACH, RND, SLOT, #4-40X3/4
46	1 EA	80061	STRAIN RELIEF 7K2
47	1 EA	101104	POWER CORD SET, 14-3C, SJT, N.A.
48	1 EA	101089	POWER CORD, 14-3, 20A PLUG
49	4	100536	26D-8/42D COMPLETE LEG ASSEMBL
50	4	15003	WASHER, FLAT, S.S., 5/16"X11/16"
51	4 EA	10104	SCREW, MACH, PLTD, #10-24 X 1/2
52	1	101145	42D FEMALE AUTODRAIN PLUG ASS.
53	2 EA	15504	NUT, KEP, #4-40
54	1 EA	10103	SCREW, MACH, SS, TRS/SKT#10-24X1"
55	3 EA	15503	NUT, KEP, #10-24
56	1	100081	CLIP, CONDENSER, ALUM, SECT.
57	2 EA	10109	SCREW, SHTMTL, SS, #10-12x1/2"
58	1	100080	CLIP, CONDENSER, S.S., SECT.
59	1 EA	100146	BUSHING, SNAP, NYLON, 1.25"HOLE
60	1	100153	TUBE-DRAIN-B.T., D8, C8, D10

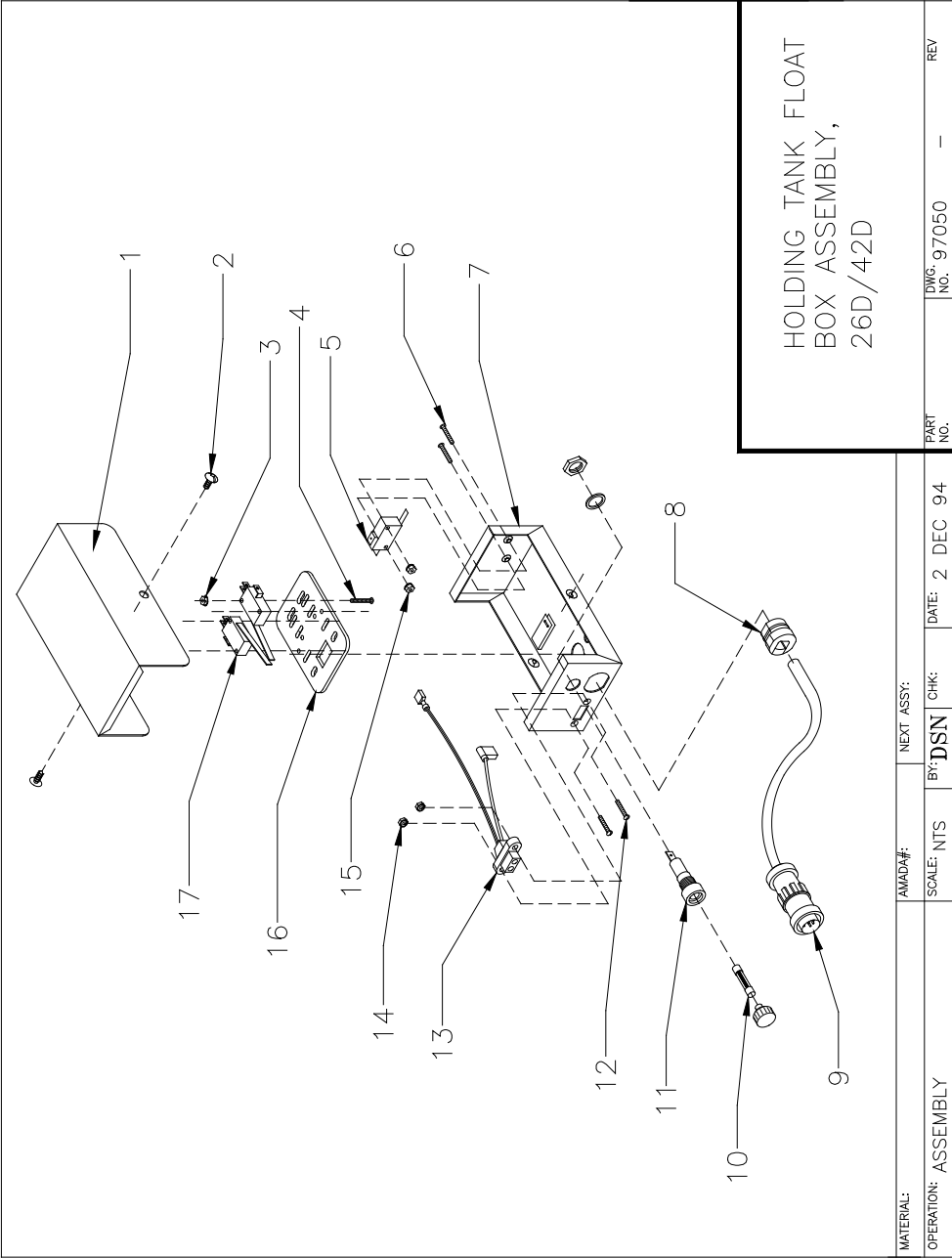
Parts Diagram: Head Assembly



Parts List: Float Box Assembly

Line	Qty	Item	Description
1	1	100159	COVER-H.T.-LEVEL CONTROL D8/C8
2	2 EA	10107	SCREW,SHTMTL,SS,#10-12x1/4BPT
3	4 EA	15504	NUT,KEP,#4-40
4	4 EA	10105	SCREW, MACH,RND,SLOT,#4-40X3/4
5	1 EA	60017	MICROSWITCH,SHORT ARM
6	2 EA	10105	SCREW, MACH,RND,SLOT,#4-40X3/4
7	1	100158	BOX-H.T.-LEVEL CONTROL D8/C8
8	1 EA	80061	STRAIN RELIEF 7K2
9	1	100337	FLOAT BOX HARNESS W/PLUG
10	1 EA	100161	FUSE, 1 AMP SLOW BLOW
11	1 EA	100160	FUSE,HOLDER,CHASSIS,15 AMP
12	2 EA	10105	SCREW, MACH,RND,SLOT,#4-40X3/4
13	1	100372	WIREASS,PUMP RECEPT ASSM,26D
14	2 EA	15504	NUT,KEP,#4-40
15	2 EA	15504	NUT,KEP,#4-40
16	1	100428	UNIVERSAL LEXAN SWITCH PLATE
17	2 EA	60005	MICROSWITCH,H.T. FLOAT

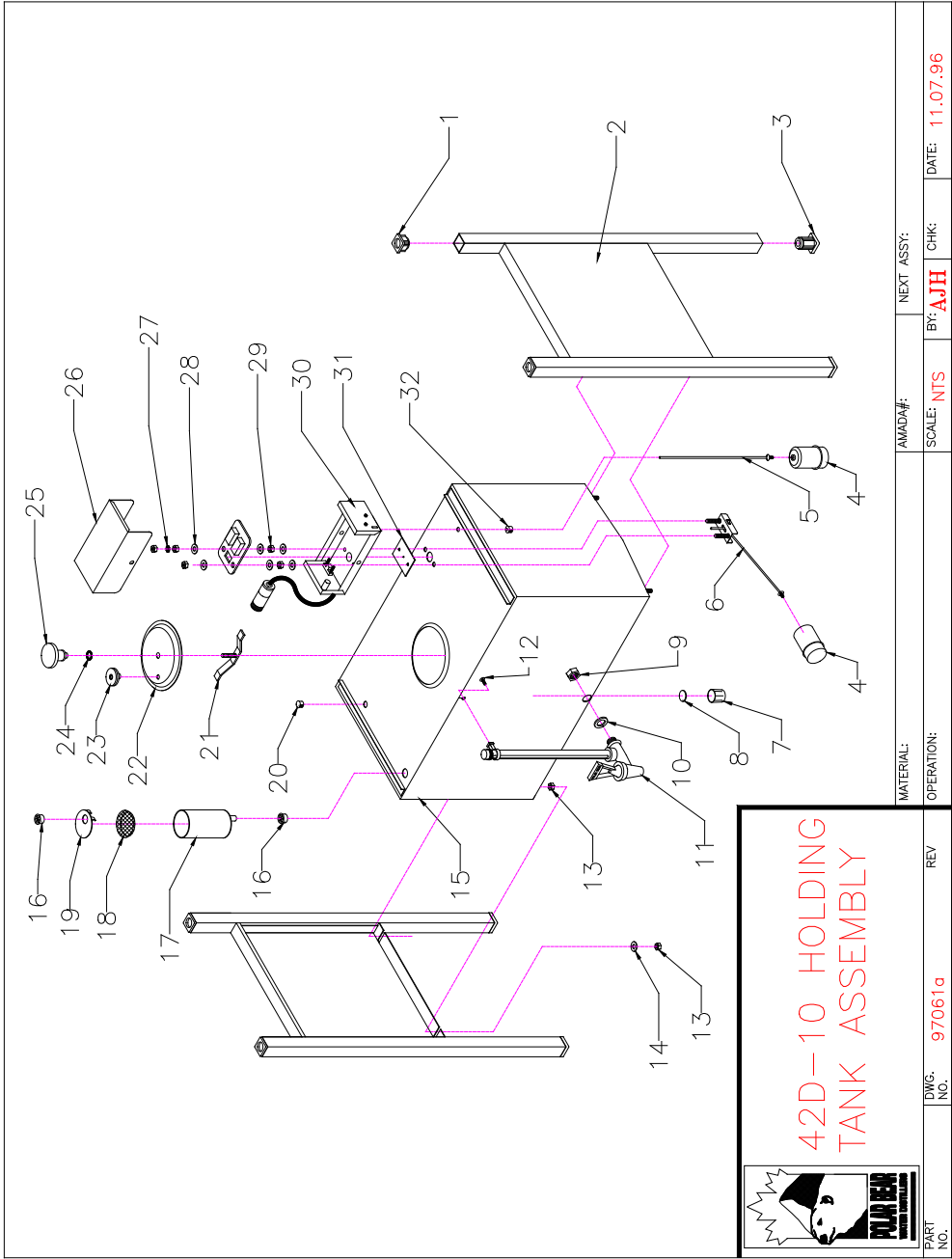
Parts Diagram: Float Box Assembly



Parts List: 42D-10 Holding Tank Assembly

Line	Qty	Item	Description
1	4	100493	GUIDE,SQUARE,POLY,LEG TOP
2	2	101130	LEGS, WELDED ASSY, D-10
3	4 EA	100108	INSERT,PLASTIC,LEG STAND
4	2 EA	100162	FLOAT, H.T.,PF-29 1-1/2X2-5/8"
5	1	100534	PUMP SHUTOFF ROD W.A, D8
6	1	101091	ASSEMBLY, LEVEL FLOAT, H.T.
7	1 EA	30076	CAP,1/2NPT PLASTIC
8	1	100535	GASKET,DRAIN NIPPLE,1 2"
9	1 EA	80010	NUT, JAM, 3/8"-18NPS, POLY
10	1 EA	80006	WASHER,BLK NEOPREAN,1"x5/8x1/8
11	1 EA	100156	DRAIN VALVE ASSEM., 11"
12	1 EA	10140	SCREW,MACH,SS,TRUS,#10-24X1/2"
13	8 EA	15502	NUT,HEX,1/4",PLATED
14	4 EA	15003	WASHER, FLAT,S.S.,5/16"X11/16"
15	1	101093	HOLDING TANK, W.A., 10 GAL.
16	2 EA	100115	BUSHING,WIRE,5/8"
17	1	100343	ASSEMBLY, WELDED 3.625"
18	1	100121	SCREEN, C.F. 2-1/4"
19	1	100306	C.F. TOP ASSEM
20	1 EA	100114	PLUG, HOLE, NYLON, 7/16"HOLE
21	1	100302	B.T. T-BAR ASSEM
22	1	100054	H.T. LID DISC
23	1 EA	100117	FILTER CANNISTER,2U,PTFE .2uM
24	1 EA	100205	ORING,RUBBER,1/2"IDx11/16"OD
25	1 EA	100071	KNOB,LID,PLASTIC STAMPED
26	1	100159	COVER-H.T.-LEVEL CONTROL D8/C8
27	1 EA	15203	WASHER,SS,LOCKTOOTH,EXT.,1/4"
28	6	15003	WASHER, FLAT,S.S.,5/16"X11/16"
29	5 EA	15501	HEX NUT, SS, 1/4" - 20
30	1	100391	ASSEMBLY, H.T. FLOAT BOX.
31	1	100066	BOILER TANK FLOAT GASKET SILIC
32	1	100165	NYLON PLUG, 7/16" DRILLED

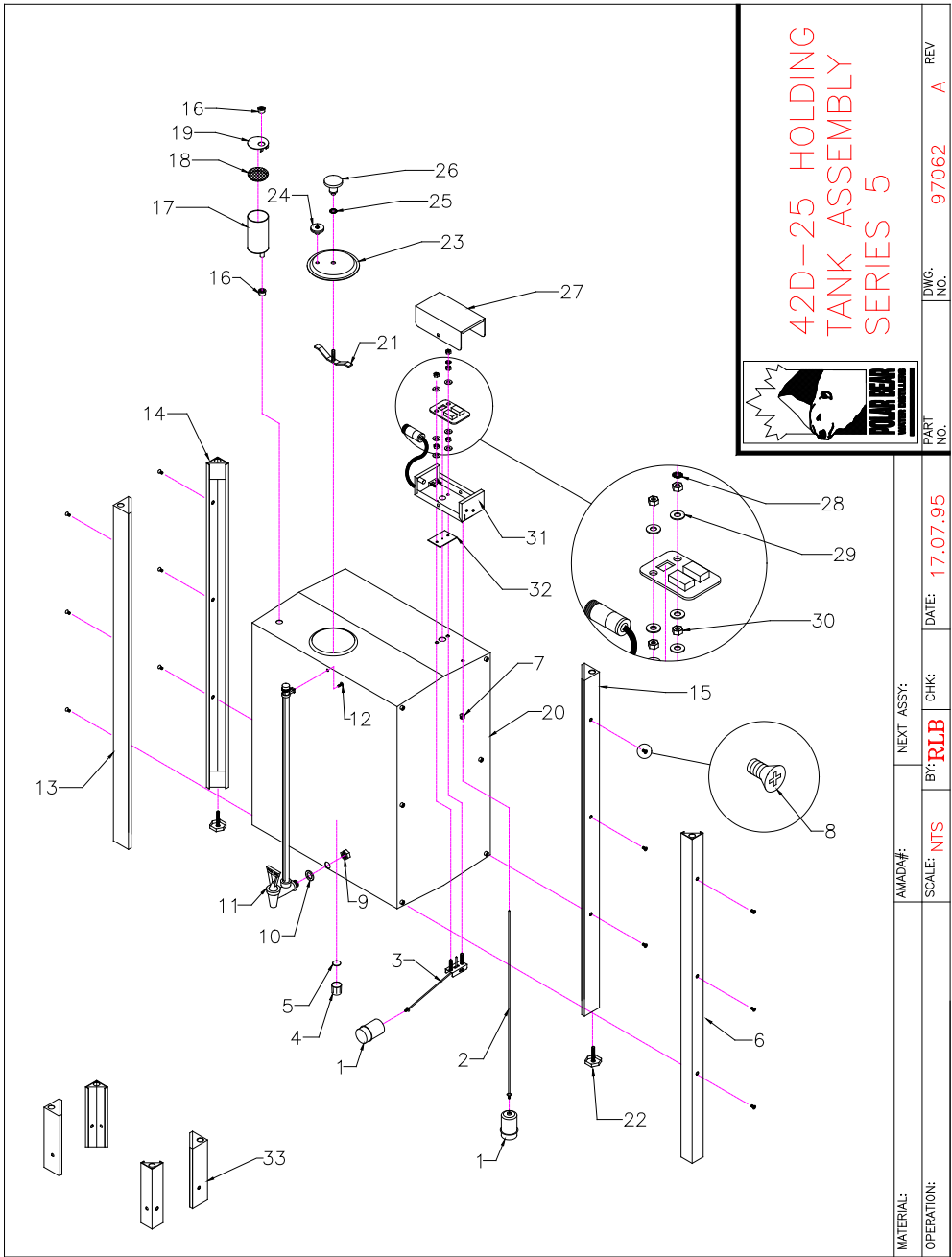
Parts Diagram: 42D-10 Holding Tank Assembly



Parts List: 42D-25 Holding Tank Assembly

Line	Qty	Item	Description
1	2 EA	100162	FLOAT, H.T.,PF-29 1-1/2X2-5/8"
2	1	101143	WELDED ASSEMBLY, PUMP SHUTOFF
3	1	101091	ASSEMBLY, LEVEL FLOAT, H.T.
4	1 EA	30076	CAP,1/2NPT PLASTIC
5	1	100535	GASKET,DRAIN NIPPLE,1 2"
6	1	101226	LEG,LF,D25,S5,W.A.
7	1	100165	NYLON PLUG, 7/16" DRILLED
8	12 EA	10123	SCREW,SS,#10-24X3/8"
9	1 EA	80010	NUT, JAM, 3/8"-18NPS, POLY
10	1 EA	80006	WASHER,BLK NEOPREAN,1"x5/8x1/8
11	1 EA	101084	DRAIN VALVE ASSEM, 23"
12	1 EA	10140	SCREW,MACH,SS,TRUS,#10-24X1/2"
13	1	101227	LEG,RF,D25,S5,W.A.
14	1	101228	LEG,RR,D25,S5,W.A.
15	1	101229	LEG,LR,D25,S5,W.A.
16	2 EA	100115	BUSHING,WIRE,5/8"
17	1	100343	ASSEMBLY, WELDED 3.625"
18	1	100121	SCREEN, C.F. 2-1/4"
19	1	100306	C.F. TOP ASSEM
20	1	101173	H.T. W.A. 42D25,S5
21	1	100302	B.T. T-BAR ASSEM
22	2	101149	FOOT,ADJUSTABLE,D25,W.A.
23	1	100054	H.T. LID DISC
24	1 EA	100117	FILTER CANNISTER,2U,PTFE .2uM
25	1 EA	100205	ORING,RUBBER,1/2"IDx11/16"OD
26	1 EA	100071	KNOB,LID,PLASTIC STAMPED
27	1	100159	COVER-H.T.-LEVEL CONTROL D8/C8
28	1 EA	15203	WASHER,SS,LOCKTOOTH,EXT.,1/4"
29	6	15003	WASHER, FLAT,S.S.,5/16"X11/16"
30	5 EA	15501	HEX NUT, SS, 1/4" - 20
31	1	100391	ASSEMBLY, H.T. FLOAT BOX,
32	1	100066	BOILER TANK FLOAT GASKET SILIC
33	4	101176	LEG, PACKING, 42D-25

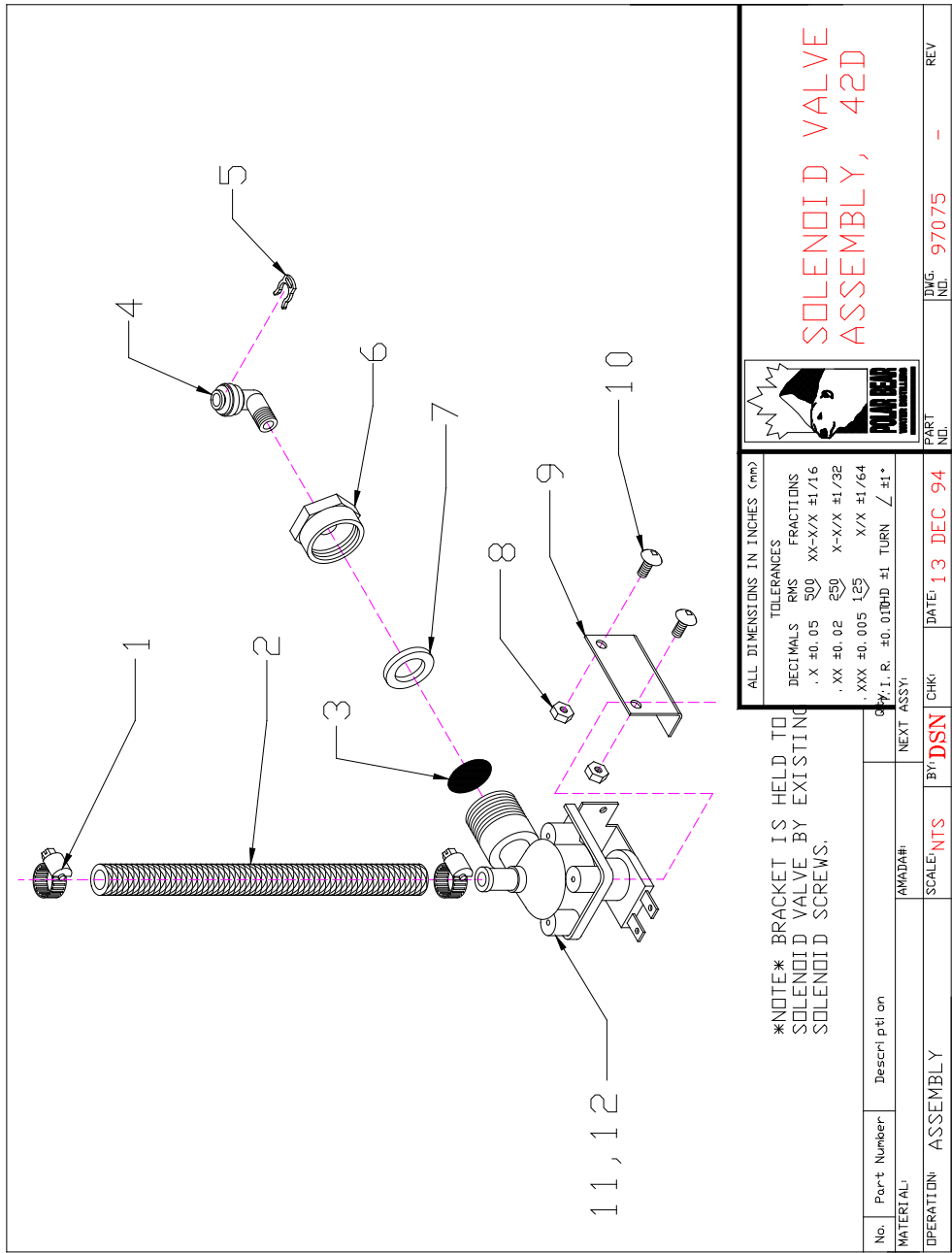
Parts Diagram: 42D-25 Holding Tank Assembly



Parts List: Solenoid Valve Assembly

Line	Qty	Item	Description
1	2 EA	80015	GEAR CLAMP, 1/4" S.S.
2	1	101106	TUBE,3/8" BRAIDED JAYON, 10"
3	1	100097	SCREEN - FILTER-FILL VALVE
4	1 EA	30082	ELBOW,90,JG,1/4TUBEX1/8MPT
5	1 EA	30083	CLIP,JOHN GUEST,1/4" LOCKING
6	1 EA	30004	COUPLER,BRASS,3/4"FGHT-1/8"FPT
7	1 EA	80006	WASHER,BLK NEOPREAN,1"x5/8x1/8
8	2 EA	15503	NUT,KEP,#10-24
9	1	100098	BRACKET,WATER SOLENOID 26D
10	2 EA	10104	SCREW,MACH,PLTD,#10-24 X 1/2
11	1 EA	100542	VALVE,SOLENOID,SUPLY,120V,S-54
12	1 EA	100092	VALVE,SOLENOID,SUPLY,240V,S-54

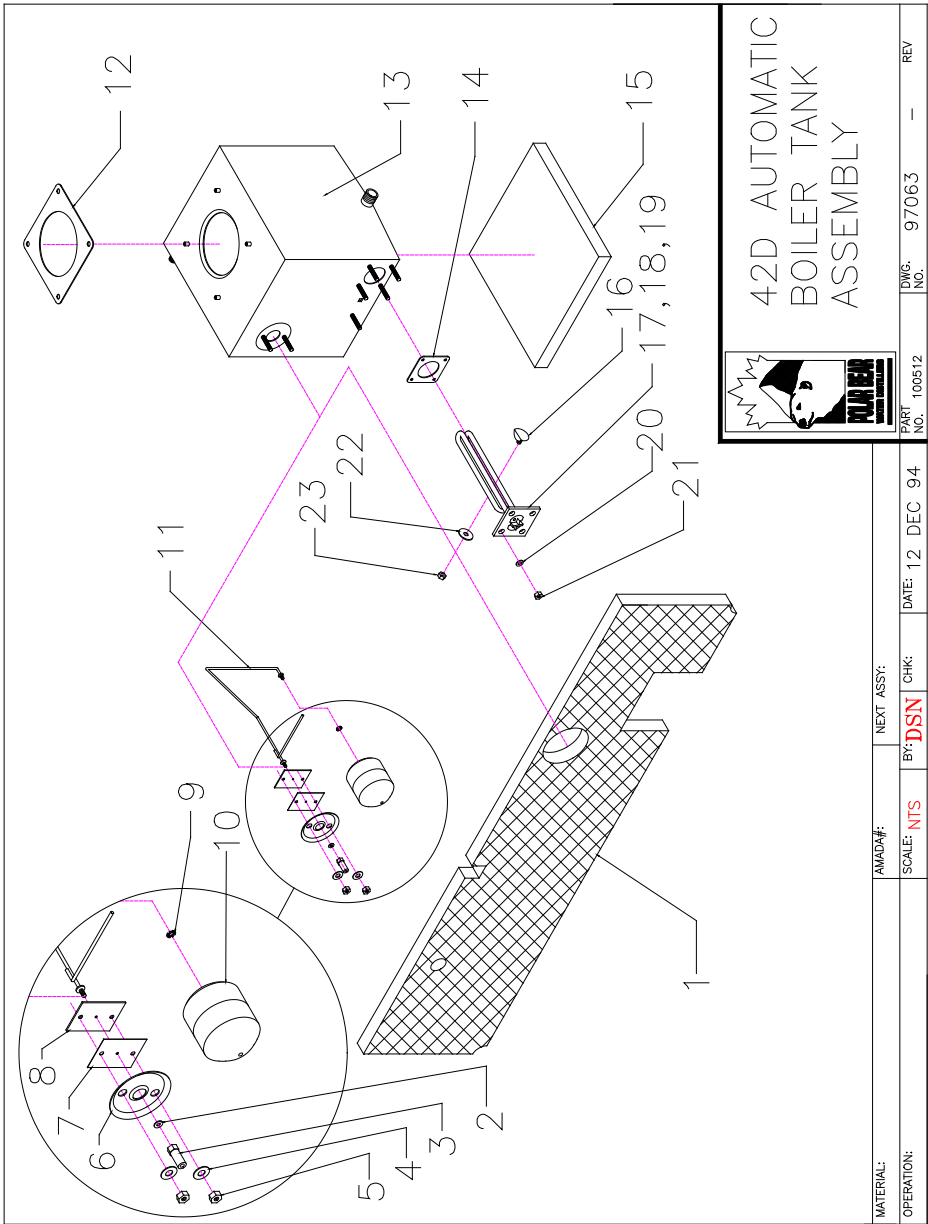
Parts Diagram: Solenoid Valve Assembly



Parts List: Boiler Tank Assembly

Line	Qty	Item	Description
1	1	101086	INSULATION, 42D BOILER TANK,
2	1	15001	WASHER, FLAT, SS, 5/32 X 3/8"
3	1 EA	100060	FLOAT,BRASS CONTACT
4	2	15003	WASHER, FLAT,S.S.,5/16"X11/16"
5	2 EA	15501	HEX NUT, SS, 1/4" - 20
6	1	100062	BOILER TANK FLOAT WASHER
7	1	100067	BOILER TANK FLOAT GASKET,NTEAR
8	1	100066	BOILER TANK FLOAT GASKET SILIC
9	1 EA	15204	WASHER,LOCKTOOTH,SS,EXTRNL #8
10	1 EA	100058	FLOAT BALL, 2.5" S.S.
11	1	101144	B.T. FLOAT ROD, W.A., 42D
12	1	100068	BOILING TANK LID GASKET SILICO
13	1	101100	BOILER TANK, 42D, SERIES 3,W.A
14	1	100065	HEATING ELEMENT GASKET, SILICO
15	1	101132	INSULATION, BOILER BOTTOM
16	1	100063	HEATING ELEMENT CLIP WELD ASSE
17	1 EA	101071	HEATING ELEMENT,1500W,125V
18	1 EA	101072	HEATING ELEMENT,1500W,230V
19	1 EA	101088	HEATING ELEMENT, 1700W, 125V
20	4	15003	WASHER, FLAT,S.S.,5/16"X11/16"
21	4 EA	15502	NUT,HEX,1/4",PLATED
22	1	15002	WASHER, FLAT, SS, 5/16"X 1"
23	1 EA	15501	HEX NUT, SS, 1/4" - 20

Parts Diagram: Boiler Tank Assembly



Other Miscellaneous Parts

Line	Qty	Item	Description
1	1	99054	MANUAL, PBD 42D-10/25, BOUND
2	1	100237	CLEAR STERILIZATION DRIP TUBE, 24"
3	1	80214	CHARCOAL,250G,JAR OF
4	1	80265	CHARCOAL,500G,JAR OF
5	1	80215	DESCALER,600G,JAR OF
6	1	80266	DESCALER,1.5KG,JAR OF
7	1	100095	VALVE,SADDLE,1/4"
8	1	100094	TUBE,LDPE,16' ROLL - 1/4"

42D-25 REPLACEMENT DECALS

Part# Description

80195 Polar Bear Decal



80194 Combination Sheet Decal



Dealer Information

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