Model D-3AD
Automatic Clean Water Distiller
Owners Manual

1096 Ringwell Drive. Unit 10
Newmarket, Ontario L3Y 7V1
Canada

www.distilled-water.com
Phone (905) 657-5128
Fax (905) 657-5131

D-3AD Water Distiller
Automatic Clean
Installation Instructions

Introduction to the D-3

The Glacier D-3 comes packaged complete and ready for installation. There are a few unique items that should be addressed before installation begins.

The Glacier D-3 will only operate while attached to the COLD WATER line. Attaching the unit to the hot water line will make it inoperable.

The Glacier D-3 is a self-cleaning unit. This means that the D-3 will do a back wash to the boiler each time the float level in the storage tank reaches it's high water mark. This prevents the build up of sediment and contaminates in the boiler, allowing for better performance and longer life of the unit.

The Glacier D-3, as a water-cooled unit, eliminates most of the heat normally associated with distillation. Therefore installations in cabinets and closets are possible. Many units are also installed on shelving or counter tops in out of the way areas.

***Remember there are three (3) necessary items needed for installation: (1) a COLD water line, (2) electricity and (3) a drain*.**

Unpacking the D-3

The D-3 is shipped complete containing the following:
The D-3 boiler and storage/condensing tank
Automatic drain pump assembly
Demand pump
Faucet and Cold water hookup kits
Pre-filter (sediment)
Post filter (carbon)
Owner's manual

Available Options:

Floor drain solenoid valves
Refrigerator hook ups
Replacement filters

Determine the location of installation:

Evaluate the location in which you wish to install the Glacier Water Distiller. Remember that there are, three needed items:
1) Cold water source,
2) Electricity
3) A Drain.

If drainage is below the level of the Glacier boiler when installed, *an optional drain valve solenoid MUST be used*. The automatic clean cycle is a gravity feed to either the drain pump (provided with all units), or to the optional solenoid.

For drainage above the boiler the drain pump must be used. For drainage below the boiler the SOLENOID must be used. Failure to install in this manner may create a continual siphoning effect hindering the proper operation of the distiller.

Preparation:

Begin by assembling the Drain Pump assembly (figure #7).

- **a. Attach check valve (fig.6) and tubing to outlet side of drain pump. The check valve must have it's flow arrow facing away from pump.**
- **b. The end of the check valve tubing will go to the 3/8" drain clamp attached to the P- trap. This clamp *must be installed above height of boiler tank* on distiller**
- **c. Remember if using a drain below the level of the boiler assemble the optional solenoid valve at this time instead of the red AD pump.**

Locate *COLD* water line and install the provided C-clamp style saddle valve.

Do not open saddle valve at this time

Locate drain and install drain saddle valves as high as possible.) This is for under the counter installations.

After installing the drain clamps remove the tube nuts and drill through drain pipe.

a. **1/4" line from storage tank cooling coils (orange tubing)**
b. **3/8" line from Drain Pump. (line with check valve)**

Locate nearest electrical supply.
If there is no electrical outlet available have an authorized electrician install a GFI receptacle.

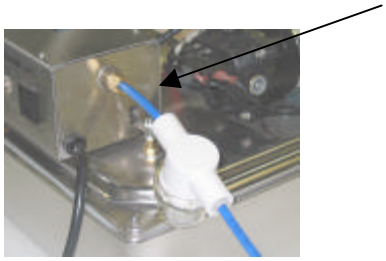
If installation will be under the counter, install the faucet kit (fig #4) to counter top using the 3/8" tubing and white 10" carbon filter provided with the distiller. Note: tubing MUST be cut cleanly and evenly to prevent possible leakage.

Installation:

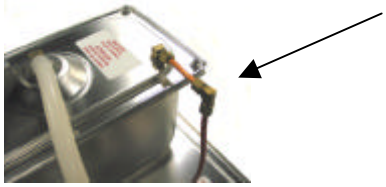
Remove Storage Tank and Boiler from shipping box. Place boiler to the left hand side on top of the storage tank with power cord facing forward.

Water Feed Line

(1) Connect 1/4"O.D. poly tube from the storage tank control box to the C-type saddle valve attached to the cold water line (fig 1). Install ¼" shut-off valve between saddle valve and pre-filter.



(2) Connect 1/4"O.D. tube from left side of junction box to boiler fill fitting on the top of the boiler (10). (Copper extension located at the end of this tube attaches to boiler.)



Drainage Line

Connect ¼" O.D. poly tube which is attached to the brass fitting on top of storage tank to ¼" fitting on the drainage saddle clamp (fig 2). (*note if you need to extend the length of this line, the restrictor assembly inside the poly line at the brass fitting MUST remain in this position for proper operation)*

Automatic Drain Line

Connect the enclosed 3/8" stainless braded tubing from chrome shut-off valve (8) on the front of the boiler tank to front of the drain pump (7). Connect check valve to the 3/8" fitting on the drain saddle (3) located on the drainpipe.

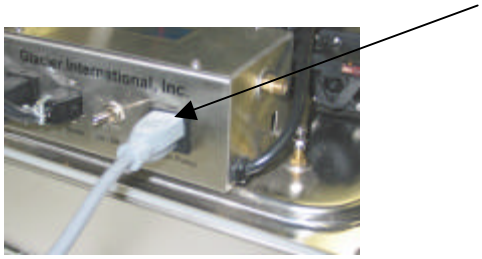
Release water into unit by turning on water from water feed C-type saddle valve.
Connect Electrical Lines *Make sure the ON/OFF/SB switch is in " OFF" position*.

Plug in the four-pin connector for magnetic float located on top of the boiler and thermostats to the front of the control box on the distiller. (4-prong plug) (13).

Plug main cord (14) from junction box on distiller (male) into your power outlet.

DO NOT PLUG in heating element cord (11) from boiler tank to the control box at this time.

Plug in the drain pump. (Fig7) into front of control box.



Prime demand pump (15) - this is accomplished by filling the distillation storage tank with two gallons of <u>distilled</u> water through the steam tube (9) with a funnel. Attach steam tube. Open faucet then switch distiller to the ON position. Let water run one half (1/2) minute then close faucet. Priming will also flush loose carbon out of the post filter. Turn unit OFF. Pump will shut off when there is enough back-pressure. Check all lines and connections for possible leaks.

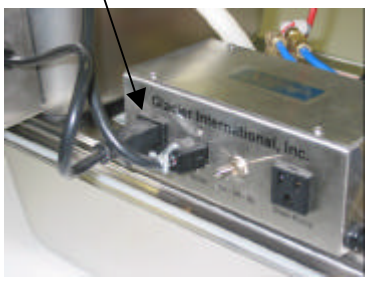
NOTE: On the D3-AD, the SB position on the main switch is used when the distiller is out of distilled water. In this position, the distiller will work but the demand pump is shut off.

Determine water flow rate:

1. **Unit must be in the OFF position.**
2. **Unscrew 1/4" drain tube from drainage saddle valve**
3. **Place tubing into a container and switch unit to ON position. If flow is sufficient switch unit OFF then *reattach* 1/4" tube to drain saddle tap. (*Note if there is not sufficient water flow, unit will run hot!)***

Turn unit to the "on" position, the boiler tank will be filling with water. When completely full, the solenoid valve will shut off water flow to boiler.

PLUG BOILER POWER CORD INTO BOILER OUTLET



Approximately 15-20 minutes later, the boiler will be making steam. At this time check the Automatic-Drain system. The A.D. system won't engage until the temperature in the boiler reaches *195 degrees.* A good indicator is when the steam tube gets warm.

To check the A.D. system, lift storage tank float switch (5) located on the right side of junction box. This will engage the A.D. pump, which will lower the water level of the boiler (make sure the chrome valve on the boiler is open, and check for leaks). Hold storage tank switch up, you will hear the float solenoid click on. As temperature of boiler tank is lowered, about 180 degrees, A.D. pump will shut off. Listen for any indication of the boiler tank refilling. <u>If the boiler tank refills it will be from syphoning</u>. (see installation item 3b). Wait until the boiler cools to about 120 degrees. This will shut off all solenoids. At this point, you have simulated a full distillation cycle and the system is working correctly.

Note: The unit will not work if syphoning.

Trouble Shooting
D-3 Automatic Drain

When trouble shooting a Glacier Distiller, make note of the following before attempting to solve any difficulty that you might be experiencing.

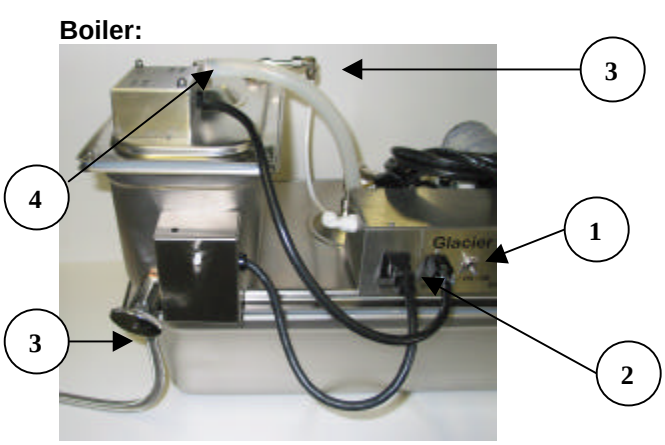
Make sure that the unit is turned on. The toggle switch should be in either the on or s/b position.
Make sure the unit is plugged in and that the circuit breaker is turned on.
Make sure the unit has been plumb to the COLD WATER line and is turned on to the unit.

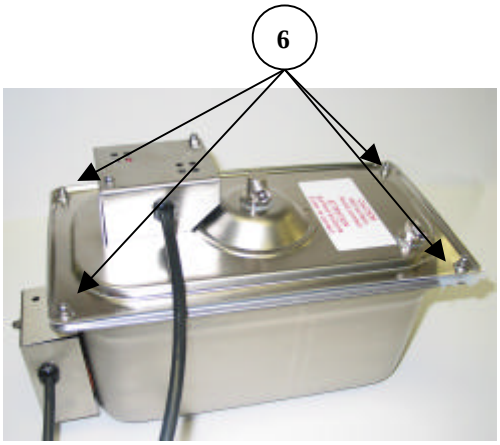
Problem	Cause	Remedy
Demand pump runs constantly	Leak in lines from pump lines	Check all fittings and
		Pump out of adjustment Adjust pump with 5/64 Allen wrench. Adjustment is at the center of pump head. Turn clockwise until the pump stops.
Boiler not hot	No electricity to boiler	Check reset thermostat on the front of the boiler. Push to reset
	Defective thermostat	Change
	Defective element	Change
Boiler not hot	Storage tank is full.	Normal
	Storage tank float is stuck in up position.	Check to see if float travels freely.
	Unit syphoning water	Check AD pump is draining in a higher position than boiler.
Boiler doesn't refill	Float switch is unplugged	Plug in securely
	Water is shut off	Turn water on.
Red AD pump runs Constantly	AD pump plugged in wrong outlet on control box.	
	Drain valve on boiler not open	Open drain valve
Unit is running hot	Unit hooked up to HOT water	Reconnect to COLD Line
	Not enough flow through Cooling Coils	Check restrictor in orange line at connection on storage tank. Unclog restrictor.

Maintenance

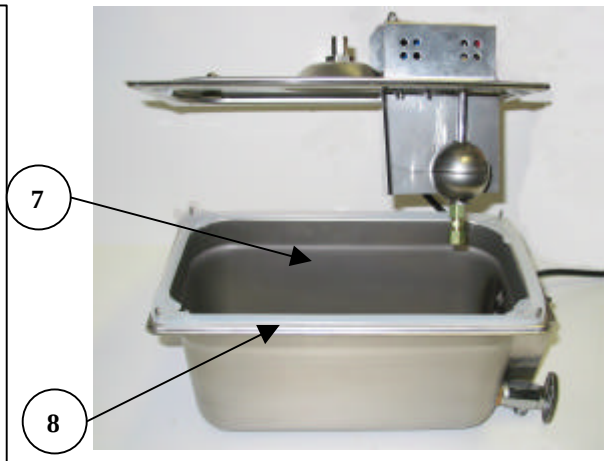
Although the Glacier D-3AD distiller is self-cleaning it is recommended that the boiler be de-scaled at least once per year and the storage tank sanitized.

Boiler:



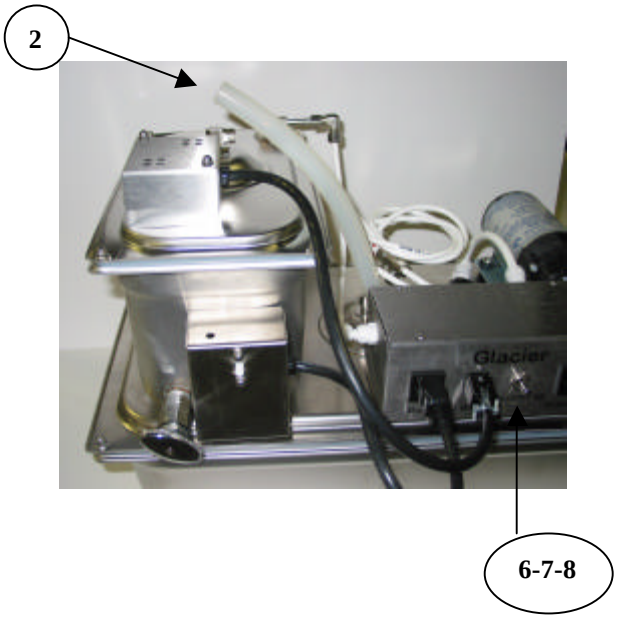


1. Put main power switch in the off position. (center)
2. Unplug boiler electrical wires from distiller.
3. Disconnect boiler fill tube and drain line from boiler.
4. Disconnect steam tube.
5. Remove boiler from distiller.
6. Remove corner acorn nuts and open cover of boiler.
7. Clean inside of boiler tank with descaler.
8. Reassemble boiler making certain the gasket is seated properly.
9. Reattach boiler to distiller and put main power switch to the on position.



Storage Tank

1. Turn of distiller.
2. Remove steam tube from boiler.
3. Pore a few drops of bleach down steam tube.
4. Let distiller stand for 30 minutes.
5. Reattach steam tube.
6. Turn on distiller and flush out storage tank by opening distilled water faucet and running until storage tank is empty.
7. Put distiller main power switch to the SB position and leave for 4 hours.
8. Return main power switch to the on position and close distilled water faucet.



Post Carbon Filter

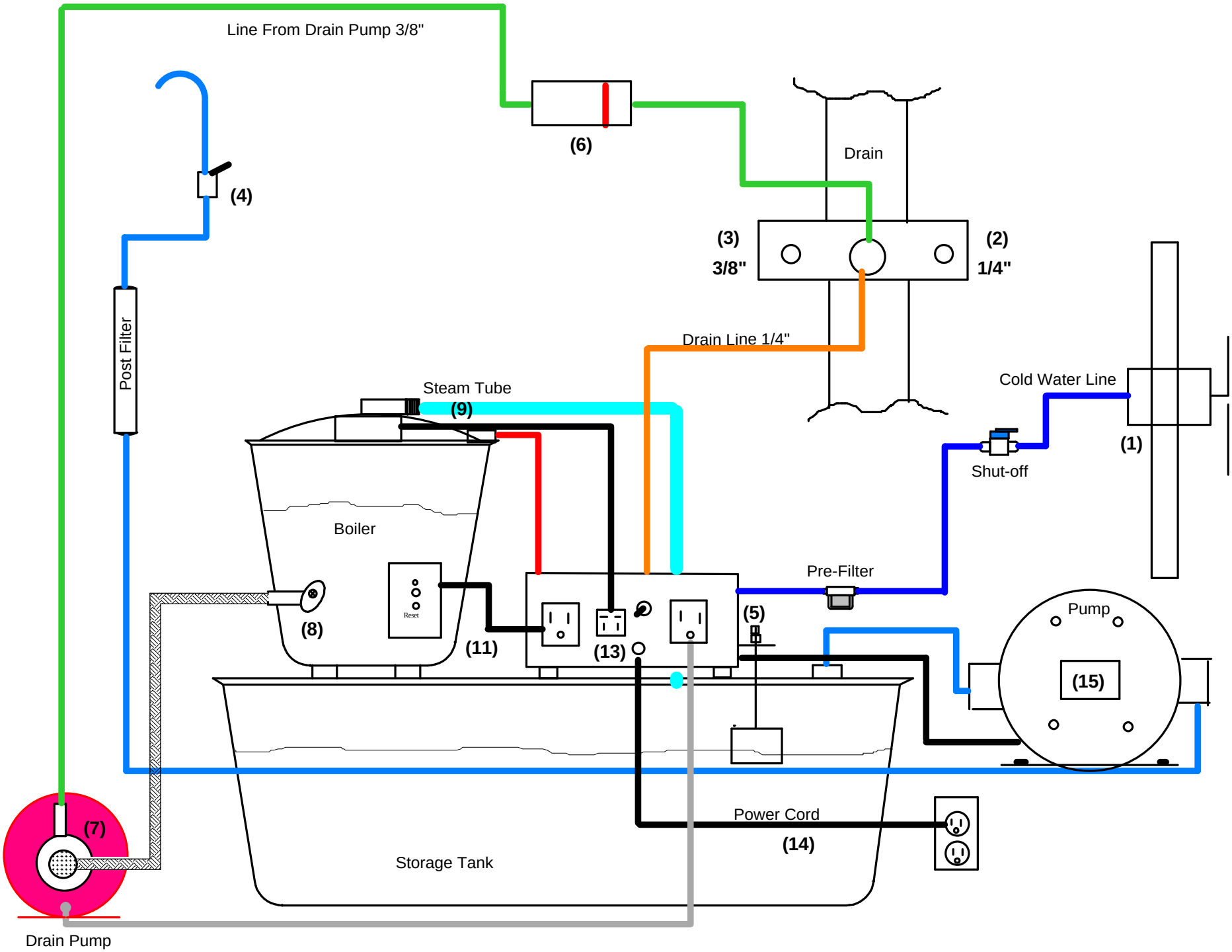
Fig #2 & #3

Fig #7 Drain Pump

Pre Filter

Fig # 1 Saddle Valve

Fig #4 Faucet



Install Diagram D-3AD