

# OWNER'S MANUAL



Bear Cub 305 | Rancher 365 | Woodsman 405 | Mountain Man 505

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LETTER FROM EARTH OUTDOOR FURNACES:

Thank You for purchasing an Earth Outdoor Furnace!

We know how exciting this moment is. You may have looked forward to having an outdoor furnace for days, weeks or years. Our staff has worked hard to provide you with a quality product that you will enjoy for years to come. Please take time to read over the information in this manual and follow the recommendations and requirements contained in it. **Improper use and/or installation** will void warranties. Always follow local code requirements and seek the help of qualified installer when installing the furnace or systems associated with your furnace.

We take pride in providing a quality product and friendly service.

Thank you for your business!!!



# **TABLE OF CONTENTS**

GENERAL INFORMATION AND FURNACE SPECIFICATIONS	
BEAR CUB 305	PAGE 4
RANCHER 365/WOODSMAN 405 /MTN. MAN 505	PAGE 5
SAFETY PRECAUTIONS	PAGE 6
GETTING TO KNOW YOUR FURNACE	
COMMON QUESTIONS	PAGE 8
FURNACE OVERVIEW	PAGE 9
HOW DOES IT WORK	PAGE 11
INSTALLATION	PAGE 11
STARTING THE FURNACE	PAGE 12
MAINTENANCE	PAGE 13
TROUBLE SHOOTING	PAGE 14
WARRANTY INFORMATION	PAGE 16
WARRANTY EXCLUSIONS	PAGE 17
WARRANTY DOCUMENTATION FORM	PAGE 18



## **FURNACE SPECIFICATIONS**

<b>BEAR CUB 305</b>	
<b>OUTSIDE DIMENSIONS AND WEIGHT</b>	
<ul style="list-style-type: none"> <li>• 48" in length</li> <li>• 40 1/2" in width</li> <li>• 75 1/2" in height</li> <li>• 1200 lbs – dry weight</li> </ul>	
<b>WATER TANK SPECIFICATIONS</b>	
<ul style="list-style-type: none"> <li>• 36" w. x 40" h. x 34" l</li> <li>• Gallons, approx 120</li> <li>• 10 ga. plate metal &amp; 1/4" plate</li> <li>• Water surrounds the entire fire cylinder except the front part where the doors are</li> </ul>	
<b>CYLINDER FIRE BOX SPECIFICATIONS</b>	
<ul style="list-style-type: none"> <li>• 30" in diameter</li> <li style="padding-left: 20px;">3/8" thick cylinder firewall</li> <li>• 30" in length</li> <li>• 30" x 30" Burn area</li> <li>• Auto damper</li> </ul>	
<b>AREA TO HEAT</b>	
<ul style="list-style-type: none"> <li>• Up to 1500 Sq ft</li> <li>• Approx BTU – 140,000</li> </ul>	
<b>CHIMNEY</b>	
<ul style="list-style-type: none"> <li>• 3/16" heavy wall steel chimney from firebox thru water chamber</li> <li>• 5 1/8" double wall chimney exiting unit</li> <li>• Sets near the back of the firebox, causing burn off of rising gases before air exits the fire area</li> <li>• Easy straight up/down cleaning</li> <li>• No "elbows" or angle areas to clean or collect condensation or rust out</li> </ul>	
<b>INCLUDED WITH FURNACE</b>	
<ul style="list-style-type: none"> <li>• Automatic Damper system</li> <li>• Ranco digital thermostat</li> <li>• Taco 3-speed pump</li> <li>• Convenient front panel water level check and fill system</li> <li>• Completely wired, plumbed</li> <li>• Unit <b>MUST BE</b> grounded with minimum of 4' copper ground rod</li> </ul>	
<b>DOORS – ALWAYS KEEP DOORS AND HINGES OILED</b>	
<ul style="list-style-type: none"> <li>• – 20" x 20", easy open, double latch safety, heat plate</li> <li>• Rear door to service area</li> </ul>	
<b>INSULATION – R-23 TO R-29</b>	
<ul style="list-style-type: none"> <li>• High heat &amp; batting insulation on sides and bottom; batting with Solar Guard™ on top</li> <li>• Wrapped in Solar Guard™ all around, top, bottom</li> <li>• Solar Wrap available</li> </ul>	
<b>COLORS –</b>	
<ul style="list-style-type: none"> <li>• Black on Black</li> </ul>	
<b>PORTS – ALL UNITS COME STANDARD WITH 1 SET OF 1" PORTS</b>	

## **FURNACE SPECIFICATIONS**

<b>RANCHER 365</b>	<b>WOODSMAN 405</b>	<b>MOUNTAIN MAN 505</b>
<b>OUTSIDE DIMENSIONS AND WEIGHT</b>		
<ul style="list-style-type: none"> <li>• 60" in length</li> <li>• 51" in width</li> <li>• 92" in height</li> <li>• 1820 lbs – dry weight</li> </ul>	<ul style="list-style-type: none"> <li>• 72" in length</li> <li>• 51" in width</li> <li>• 92" in height</li> <li>• 2028 lbs – dry weight</li> </ul>	<ul style="list-style-type: none"> <li>• 72" in length</li> <li>• 51" in width</li> <li>• 92" in height</li> <li>• 2084 lbs – dry weight</li> </ul>
<b>WATER TANK SPECIFICATIONS</b>		
<ul style="list-style-type: none"> <li>• 44" w. x 48" h. x 48" l</li> <li>• Gallons, approx 235</li> <li>• 10 ga. plate metal &amp; ¼" plate</li> <li>• Water surrounds the entire fire cylinder &amp; door frame</li> </ul>	<ul style="list-style-type: none"> <li>• 44" w. x 48" h. x 60" l</li> <li>• Gallons, approx 217</li> <li>• 10 ga. plate metal &amp; ¼" plate</li> <li>• Water surrounds the entire fire cylinder &amp; door frame</li> </ul>	<ul style="list-style-type: none"> <li>• 44" w. x 48" h. x 60" l</li> <li>• Gallons, approx 320</li> <li>• 10 ga. plate metal &amp; ¼" plate</li> <li>• Water surrounds the entire fire cylinder &amp; door frame</li> </ul>
<b>CYLINDER FIRE BOX SPECIFICATIONS</b>		
<ul style="list-style-type: none"> <li>• 36" in diameter</li> <li>• ½" thick cylinder firewall</li> <li>• 36" in length</li> <li>• 36" x 36" Burn area</li> <li>• NO ash pan</li> <li>• Auto damper</li> </ul>	<ul style="list-style-type: none"> <li>• 36" in diameter</li> <li>• ½" thick cylinder firewall</li> <li>• 42" in length</li> <li>• 42" x 36" Burn area</li> <li>• NO ash pan</li> <li>• Auto damper</li> </ul>	<ul style="list-style-type: none"> <li>• 36" in diameter</li> <li>• ½" thick cylinder firewall</li> <li>• 48" in length</li> <li>• 48" x 36" Burn area</li> <li>• NO ash pan</li> <li>• Auto damper</li> </ul>
<b>AREA TO HEAT</b>		
<ul style="list-style-type: none"> <li>• Up to 3000 Sq ft</li> <li>• Approx BTU – 300,000</li> </ul>	<ul style="list-style-type: none"> <li>• Up to 4000 Sq ft</li> <li>• Approx BTU – 355,000</li> </ul>	<ul style="list-style-type: none"> <li>• Up to 6000 Sq ft</li> <li>• Approx BTU – 400,000</li> </ul>
<b>CHIMNEY</b>		
<ul style="list-style-type: none"> <li>• 3716" heavy wall steel chimney from firebox thru water chamber</li> <li>• 6" double wall chimney exiting unit</li> <li>• Sets near the back of the firebox, causing burn off of rising gases before air exits the fire area</li> <li>• Easy straight up/down cleaning</li> <li>• No "elbows" or angle areas to clean or collect condensation or rust out</li> </ul>		
<b>INCLUDED WITH FURNACE</b>		
<ul style="list-style-type: none"> <li>• Automatic Damper system</li> <li>• Ranco digital thermostat</li> <li>• Taco 3 speed pump</li> <li>• Convenient front panel water level check and fill system</li> <li>• Completely wired, plumbed</li> <li>• Unit <b>MUST BE</b> grounded with minimum of 4' copper ground rod</li> </ul>		
<b>DOORS – ALWAYS KEEP DOOR AND HINGES OILED</b>		
<ul style="list-style-type: none"> <li>• Access Door – 25" x 25", easy open, triple latch safety, heat plate</li> <li>• Rear door to service area</li> </ul>		
<b>INSULATION – R-23 TO R-29</b>		
<ul style="list-style-type: none"> <li>• High heat &amp; batting insulation on sides and bottom; batting with Solar Guard™ on top</li> <li>• Wrapped in Solar Guard™ all around, top, bottom</li> <li>• Solar Wrap available</li> </ul>		
<b>COLORS –</b>		
<ul style="list-style-type: none"> <li>• Black on Black</li> </ul>		
<b>PORTS – ALL UNITS COME STANDARD WITH 2 SETS OF 1" PORTS – MORE CAN BE ORDERED.</b>		

## **SAFETY PRECAUTIONS** **WARNING!**

- Make sure you read this manual and follow the recommendations contained in it to have the joy of operating your furnace for years to come. **Improper use and/or installation will void warranties.** Always follow local code requirements and seek the help of qualified installer when installing the furnace or systems associated with your furnace.
- Do not operate this equipment for any use other than its intended purpose nor other than in accordance with the instructions contained in this manual and all other instructions accompanying the furnace. **Do not modify the furnace in any manner! Any modification without express written consent of manufacturer will void warranty.**
- **Failure to treat water properly will void your warranty.** Earth Manufacturing pays for the water test for the 1<sup>st</sup> 5 years.
- For furnaces covered by this instruction book, it is important to observe safety precautions to protect yourself from possible injury.
- Observe all safety stickers on the furnace.
- This furnace must be wired by a qualified electrician in accordance with local and/or National Electric Codes and must be grounded with a 4' copper ground rod. Failure to do so will void warranty.
- Never use any type of petroleum product, petroleum-based product, charcoal starter, lighter fluid, lantern fuel, kerosene, or any other flammable accelerant to start your furnace.

### KEEP ALL SUCH LIQUIDS WELL AWAY FROM FURNACE WHEN IN USE

- Keep antifreeze, which is flammable, well away from the furnace. Use only non-toxic antifreeze in the unit. Test antifreeze and other chemicals annually.
- The use of treated wood (painted, treated, etc.) and any other salvaged material that can emit toxic gases into the environment and may be corrosive toward the components of the appliance is **NOT ALLOWED** and voids the warranty.
- **DO NOT BURN GARBAGE, HOUSEHOLD WASTE OR YARD WASTE IN THE FURNACE.** The furnace is a multi-fuel furnace. **Burning non-organic materials can reduce the life of the furnace and will void your warranty.**
  
- Open-loading door – when opening the door, pause momentarily between the first latch and the safety latch to allow any combustion gases to burn off.
- Earth Manufacturing requires using a spark arrestor/chimney cap with your furnace. Failure to do so will void warranty.
- **DO NOT OPERATE THE FURNACE WITH THE DOOR OR ASH RECEPTACLE DOOR OPEN.** Always latch the doors securely. If the ash door is open for any extended period of time, it will cause over-firing of the fire and boiling. Failure to keep doors securely closed will void warranty.
- Always use proper care when installing, operating, and maintaining the furnace.
  - Always wear protective gloves and glasses and be aware that loose or hanging clothing can catch fire!
- Be careful when loading the furnace. Surface areas inside the furnace are hot. Creosote builds up in the furnace can ignite suddenly or cause burns if dripped onto the skin.

- Do not modify the furnace. Do not substitute repairs that can be provided by your dealer, distributor, or manufacturing company. **Any such action will void your warranty.**
- **Do not operate under pressure. This is a non-pressurized system (commonly referred to as an open system). Addition of valves or plugs to the system that would cause pressure will void your warranty. NOTE: Never under any circumstance cap vent pipe on front of furnace. This unit is not a pressurized system; it is an open system. Capping vent could cause serious damage to the unit and/or personal injury. Capping the vent pipe under any circumstance will void warranty.**
- Keep the overflow tube clean and free of debris, bugs, etc. DO NOT close it off! The tube is meant to steam if necessary and allow for pressure release.
- **Failure to heed these warnings or any additional warnings on the furnace may result in an accident-causing personal injury and damage.**
- **!! CALL LOCAL UTILITIES BEFORE YOU DIG THE TRENCH!!**
- Disposal of ashes:  
ASHES SHOULD BE PLACED IN A METAL CONTAINER WITH A TIGHT-FITTING LID. THE CLOSED CONTAINER OF ASHES SHOULD BE PLACED ON A NON-COMPUSTIBLE FLOOR OR ON THE GROUND. ALL COMBUSTIBLE MATERIALS SHOULD BE DISPOSED OF BY BURIAL IN SOIL OR OTHERWISE DISPERSED. ASHES SHOULD BE RETAINED IN THE CLOSED CONTAINER UNTIL ALL CINDERS HAVE THOROUGHLY COOLED.
- Installation, to include wiring and plumbing, and operation must follow Federal, Provincial, State and Local Codes, electrical, plumbing, fire and building codes.
- The Earth furnace is intended to be the primary source of heat. However, a back-up system should always be in place and ready for use.
- A back-up generator is HIGHLY recommended so that you can have heat during power outages! The standard pump and fan draw 120 watts together. The furnace can draw 1350 watts or more on start-up. A small 2000-watt generator will power it all and give you extra power for lights.
- The manufacturer is not liable for damages to furnace or property in the case of misuse, improper installation of equipment or for knowing local installation codes. Product owner assumes all responsibility for this. **This document is a general manual to aid in installation. We cannot know all applicable codes in your area!**
- Remember to give the furnace a “Once Over” regularly.
  - “Once” a day check the water level
  - “Once” a week clean the ashes out (or more often if needed)
  - “Once” a month clean the chimney

# **GETTING TO KNOW YOUR FURNACE**

## **COMMON QUESTIONS**

### **IS IT SAFE?**

Having the furnace outside eliminates the possibility of causing a fire in your home. The furnace is a non-pressurized system which eliminates any chance of explosion associated with pressurized furnaces. Also, the oversized door makes loading easier.

### **WHAT CAN I SIT THE FURNACE ON?**

A 4-to-6-inch concrete pad is required, whether preformed or poured.

### **HOW FAR AWAY CAN IT BE?**

Earth Outdoor Furnaces can be set from 30 to 300 feet away from your home. There are a few things to keep in mind: 1. The ease of access for digging lines to your house from the furnace 2. How you will get fuel to your furnace 3. How far you want to go when needing to fill the furnace. 4. Check with your insurance company to make sure you are in compliance with your policy. Normally you should visit your wood furnace twice a day to check the fire and fill.

### **WHAT DO I DO WHEN I GO AWAY FOR A COUPLE DAYS?**

This is a common question. You have several options depending on your situation.

Here are a few more options for you:

1. You can set up your unit with a bypass to not heat the home and circulate the water within itself and the burn time will be much longer--4 to 5 days.
2. If the weather isn't really cold the circulation pump is moving the water quite quickly. Moving water is hard to freeze.
3. Maybe a friend or family member could help and feed the unit while your away.
4. You could look into special anti freeze. Keep in mind most anti freeze is terrible to our environment and costly.
5. "If there is a will there is away!"

### **WHAT IF THE ELECTRICITY GOES OUT?**

The Earth Outdoor Furnace uses very little electricity which can be supported by a small generator. You can run a regular inexpensive extension cord to the unit and unplug the furnace from the outlet on the back of the furnace and plug into a small generator. Problem solved. However, when most homes lose electricity, they have no way to power the indoor blower for their duct work. Either way you will need something to back up your existing home as well as the furnace. Another option would be to use an extension cord on a box style fan and place the fan so that it would blow into the return vent of your duct work. Then close off the vents to rooms you can afford to let go cold. Otherwise, you will need to look into a system that will power your indoor blower. Consult electrical contractors for most of that type of work.

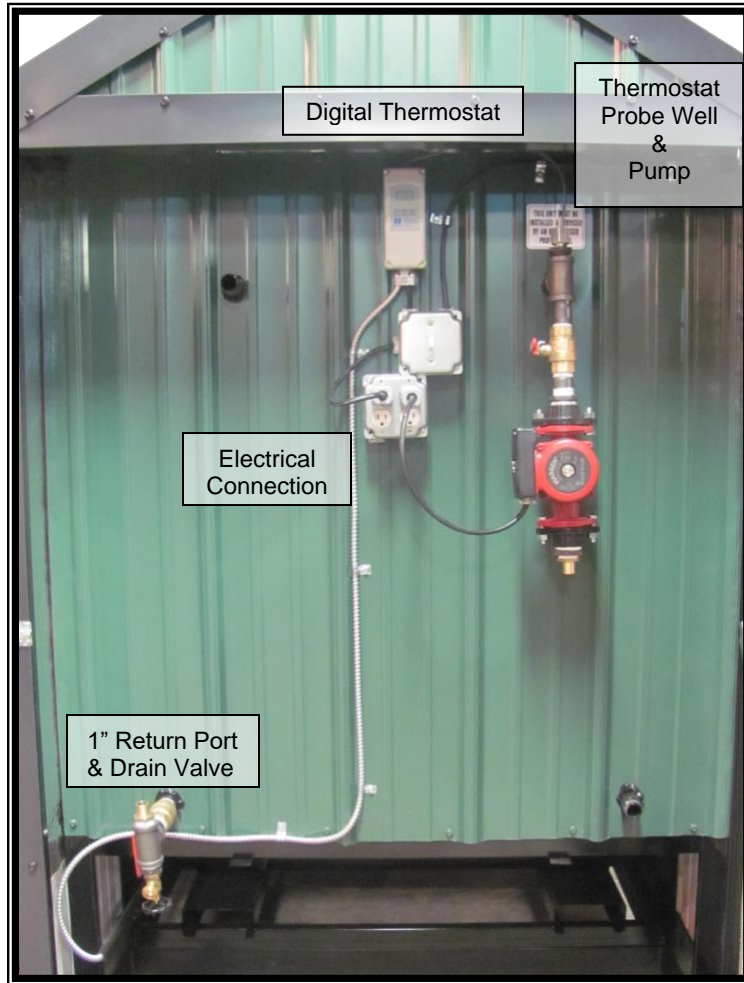


## FURNACE OVERVIEW - FRONT



1. The overflow port is where you will see water standing when the furnace is full. Note that cold water expands when heated, therefore water will come out of the overflow from heat expansion when firing it up. Never plug overflow port. Note: To minimize water use refill furnace when furnace is up to temperature.
2. The manual fill valve: A quarter turn valve used to fill the water tank of the furnace.
3. The light switch and light are all pre-wired at the factory. The light switch is a weather guard switch that can be used in all weather conditions. The light is a 150-watt halogen light for illuminating the area around the front of the furnace.
4. The fuel door: Models 400, and 500 have a 20" x 20" door with double latch safety and heat shield. Models 365, 405, and 505 have a 25" x 25" door opening and same safety features.
5. The ash door/pan (not pictured) On Models 400, & 500 can be opened by turning the screw style latch a few turns and pulling to clean out ashes.
6. The automatic forced air fan/damper system is on the door on all models. It is activated by the digital read out thermostat to kick on and off at the factory pre-set temperature. Your thermostat can be adjusted to various temperature settings.

## FURNACE OVERVIEW – BACK



Furnace Back with Workstation Door Closed

- 1) The digital thermostat is pre-programmed at the factory.
- 2) The factory hooks up all electrical connections to the switch box located on the rear of the furnace. You will need a certified installer to bring power from the house or other power source and wire into the electrical outlet next to the switch box. Then plug the cord from the switch box into the outlet and turn the switch on to get power to the furnace. In the event that you need to run the furnace off generator power, unplug power cord from the furnace and plug into a power cord from the generator to power the furnace. **Remember to ground your furnace!!**
- 3) Shown is a circulating pump pulling water out of one upper port. There are two sets of ports on the furnace that can be used for multiple building applications.
- 4) Return port with drain valve. The bottom two ports are for return lines.

*It is recommended to have a water shut-off either at the house where the fill water is taken from or at the back of the furnace between the fill line from the house and the connection to the furnace fill line.*

## **HOW DOES IT WORK?**

The fire chamber is completely immersed in water (except for the front of the furnace at the fill door and ash door). When a fire is built it heats the water and a pump takes the hot water to the house. Inside the house you have a heat transfer appliance; this can be a heat exchanger that fits into your duct work, baseboard style heaters, or a radiant floor heating system. The water will then be returned to the furnace for reheating. The hot water from the furnace can also be sent to a heat exchanger to heat your domestic hot water.

## **INSTALLATION**

*It is important that you have the furnace installed by a qualified installer. A ground rod must be installed to maintain warranty. Earth Outdoor Furnaces will not be held responsible for complications due to improper installation and in some cases the warranty may be voided due to improper installation and start up.*

There can be many variations in proper installation. Here are some general guidelines to follow.

### Setting the Furnace

Depending on your application and site conditions, you may use a pre-poured pad, or you may choose to pour a concrete pad. Pad size will depend on customer preference. The smallest pad recommended would be for the Rancher 365. It should be no smaller than 5 feet by 6 feet and minimum of 4 inches thick. You may choose to pour a larger one based on your own situation and preference.

### Underground Line

When digging the trench, it is best to dig below the frost line. You will normally need two 1" lines for the supply and return of the furnace water, one 1/2" line for the furnace fill line, and an electrical line to power the furnace. Some installations may require more lines check with a qualified installer or ask our customer service department to help.

### Setting up the system

It is best if this system is set up in a continuous loop going from one appliance to another. Parallel systems with "T" will not work or will be inefficient in their movement of water.

There are a number of options and ideas on the set up of the whole furnace system. Consult some one with experience to design a system that will work for you.

## **STARTING UP THE FURNACE**

Make sure all the valves on the back of the furnace are closed and that the power is off.

Before filling the furnace with water, add your Water Treatment/Rust Inhibitor, then begin filling the furnace with water. (Pull a water sample after water has circulated for a minimum of 72 hours and send to the analysis lab located on label found inside the water treatment box.) Turn the manual fill valve on the front of the furnace to allow water to flow into the furnace tank. You can work on other things while it is filling. Once the water starts to flow out of the over flow, shut off the water with the manual fill valve.

Double check that all the fittings and connections throughout the system have been tightened or secured. Then open the valve going to the pump and from the furnace. If you have a way to bleed the air out of the system, then open the bleed valve and turn the power on. *(With a normal set up, the pump coming out of an upper port and returning to a lower port, open the ball valve on the top side of the pump and then open the drain valve on the lower port. The pump has enough pressure to push air out of the lines, however, if you get water in the return lines prior to pumping water from the furnace your line will become air locked and that will require special help from another water source to fix.)*

Once the pump has started pushing water through the lines, check the various connections throughout the system to verify they are all good and you have no leaks. After the system has been purged of air, close the bleeder valve, and open the ball valve to the furnace on the return port.

Now it is time to start a fire. It is recommended that you check all the lines prior to starting a fire in case you have a problem that needs to be repaired. It is easier to repair the lines while they are cold than when you have hot water flowing through them. When first starting up the furnace, build a manageable fire to get the water up to temperature. Once the water has gotten to your desired temperature setting then you can fill it full of fuel and start a normal operation. Water will come out of the overflow as it expands.

## **MAINTENANCE**

The front fuel door has “U” bolts that are adjustable. If you feel the door is not closing tightly or may be too tight, loosen the bolts with the door open and tighten or loosen the bolts as necessary.

It is important that the water is checked daily, especially after the first start up. We also require that you have your water tested to maintain proper ph and necessary chemicals for your water conditions. At the end of the season, it is important to have all necessary chemical in the water if. Never drain your system. Earth will pay for the water test for the 1<sup>st</sup> 5 years of ownership.

You should clean your ashes out at least once a week. A flat shovel works well for this job. We recommend using a metal container of some kind to put the ashes in when removing them. At the end of the season, be sure to completely clean the ash box. Ashes combined with moisture are very corrosive and can eat through metal. Ash or coal corrosion is NOT covered under warranty.

The ash grate inside the furnace is removable for cleaning purposes however it is very heavy. Use caution when taking it out.

Your chimney is a 6” heavy wall rolled steel that sticks straight down into the fire box. It should be cleaned about once a month. A Six-inch round chimney brush will work for this job. You are required to use a spark arrestor/chimney cap with the furnace to keep rain out. It is required that you at least cover the chimney during the summer months when the furnace is not in use to keep rain, birds, and other insects from getting in the furnace.

The light, pump, and blower can all be visually inspected and are covered under the manufacturer’s warranty.



# **TROUBLE SHOOTING**

## **SQUEALING PUMP**

On initial start up if the pump is not primed with water, it may squeal and can burn your pump out. Make sure the ball valve to the pump is open and the water tank is full.

## **CAN I OPERATE THE FURNACE WITH ASH DOOR OPEN**

No, this will cause your furnace to overheat. Doing so will void your warranty.

## **WATER IS NOT GETTING HOT**

Several things may contribute to this problem.

Check that the fire is getting enough air. Make sure there is not obstruction in the chimney or in front of the blower hole.

Ashes may be built up too much in the fire chamber. Before you stoke the fire make sure you take a shovel or some device and rake the coals towards the middle of the furnace. Ash builds up around the edges work to insulate the fire box from the fire and does not let the heat transfer like it was designed to.

Your water lines may not be insulated enough. If you have exposed lines, or lines that run through uncontrolled environments you may look into insulating them or putting more insulation on them. Insulation is key to your performance.

Your blower in the house will drop the water temperature as much as 20 degrees. If the temperature of the furnace water is not above 150, it makes it hard to recover temperature loss when the blower is on. Try turning the blower off and work with the fire to recover heat in the water.

## **CHECKING FOR AIR LOCKED LINES**

The water is not moving to the house or through the house.

Make sure the return ball valve is open at the furnace and that all valves are open through the house.

It could be that you have an air bubble stuck in the lines somewhere. Turn the pump off and loosen the bottom flange bolts until water will run out. Shut off the ball valves to the pump and on the return into the furnace. Take a garden hose from a house faucet to the furnace. Steal a washing machine hose from inside the house and use it to hook to the furnace drain and the garden hose. Turn the water on at the house and open the drain. This will allow water from the hose to move the entire system and purge any air bubbles. It will also cause the water to spray from the bottom flange of the pump and you get wet if not careful. Allow this to run for approx two minutes (time can be based on length of run to the house and back). Tighten the flange and open all valves. Shut the water off and close the drain.

#### LINES NOT GETTING HOT THROUGHOUT ENTIRE SYSTEM

If you have put a tee into the system, then water may not be flowing through one of the appliances.

You may have to re-plumb the system so that there is a continuous loop from the furnace to the house and back.

#### DOMESTIC HOT WATER HEAT EXCHANGER NOT HEATING

The heat exchanger could be air locked or not plumbed properly. Find a way to bleed any air out of the domestic side of the system at the highest point.

# EARTH OUTDOOR FURNACES™

## WARRANTY INFORMATION

1. "Earth" Furnaces have a 25-year limited warranty.
2. This warranty is on, and covers the furnace only, NOT FANS, THERMOSTATS, PUMP, ETC. OR ANY PRODUCT OR WORK YOUR INSTALLER DOES OR SUPPLIES.
3. The electrical components (thermostat, fan & pump) have their manufacturer's warranty (usually 1 year).
4. Doors, grates & damper have a one-year warranty.
5. We have a 5-year warranty against any leaks which covers parts and labor.
6. Years 6-25 are pro-rated as follows for coverage of parts & labor\*:
  - Year 6 – 50%
  - Year 7 – 45%
  - Year 8 – 40%
  - Year 9 – 35%
  - Year 10 – 30%
  - Year 11 – 25%
  - Year 12 – 20%
  - Year 13 – 15%
  - Year 14 thru 25 – 10%
7. The life of your furnace depends upon proper maintenance. You must submit a water sample yearly for professional lab analysis. You must follow their recommendations to achieve an acceptable range. If additional treatment is recommended, you will need to purchase that through Earth. You may also purchase just the "water sample analysis kit" from Earth for retesting purposes. **Failure to do so will void your warranty.**
8. When the treatment and sample kit arrive, treat your furnace and let it circulate at least 72 hours before taking a sample according to the easy-to-follow directions, package it up and mail it back (postage not included). The testing lab will forward the test results to Earth Outdoor Furnaces.
9. All furnaces must be treated with "Earth Outdoor Furnace Treatment" corrosion and rust inhibitor at install and per recommendation from testing facility thereafter. "Earth Outdoor Furnace Treatment" must be purchased through Earth Outdoor Furnaces or lab will refuse testing.
10. You must Power Ground your furnace with a minimum of 4' copper ground rod. **Failure to do so will void your warranty.**
11. Warranty is nontransferable. No cash or surrender value.

# **EARTH OUTDOOR FURNACES™**

## **WARRANTY EXCLUSIONS**

- 1) Burning any non-organic.
- 2) Any modifications or changes to the unit
- 3) Lack of maintenance including:
  - i) Failure to clean out ashes, failure to clean the ash pan & fire box after season.
  - ii) Allowing moisture to remain in the fire box & ash area off-season.
- 4) Faulty installation or connection.
- 5) Not testing and treating your water for recommended chemical treatment, & rust inhibitor.
- 6) Disasters, such as windstorms, fires, etc.
- 7) Failure to properly power ground furnace.
- 8) Insufficient and/or excessive draft
- 9) Consumption that exceeds use limits
- 10) Transportation and/or packaging costs
- 11) Warped doors or grates
- 12) If your furnace has a failure in the sheet steel that is not in conjunction with a weld, it will NOT be warranted. (i.e., split door frame, water jacket, etc)
- 13) Damage to the thermostat due to over-heating from intensive and non-approved use (such as ash door left open, or the fan left off during high fires)
- 14) Failure of the water pump resulting in an over heating of the furnace
- 15) Misuse or incorrect use
- 16) Insufficient or inadequate relation between the nominal power of the equipment and the heat requirements of the premise
- 17) Failure to return the warranty sheet information form within 60 days
- 18) Consequential or incidental damage, such as loss of anti-freeze and/or water treatment
- 19) Transportation and installation.
- 20) Deterioration due to non-use of the unit.
- 21) All and any costs not previously agreed to and accepted by Earth Outdoor Furnaces.
- 22) Warranty starts on date of delivery, and is contingent upon receipt of full payment, copy and verification of water sample directives within 60 days of purchase

# **WARRANTY DOCUMENTATION FORM**

Fill in the following information and mail a copy within 60 days of purchase.



Owner Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone Number: \_\_\_\_\_

E-mail: \_\_\_\_\_

Earth Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

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

Date of Installation: \_\_\_\_\_

Installer: \_\_\_\_\_

Purchased from: \_\_\_\_\_

Please keep this manual with all other important papers. The information in this manual is necessary for the installation, operation, and proper use of this furnace. If you should ever have a problem or question, please refer to this manual or have it available when you call.