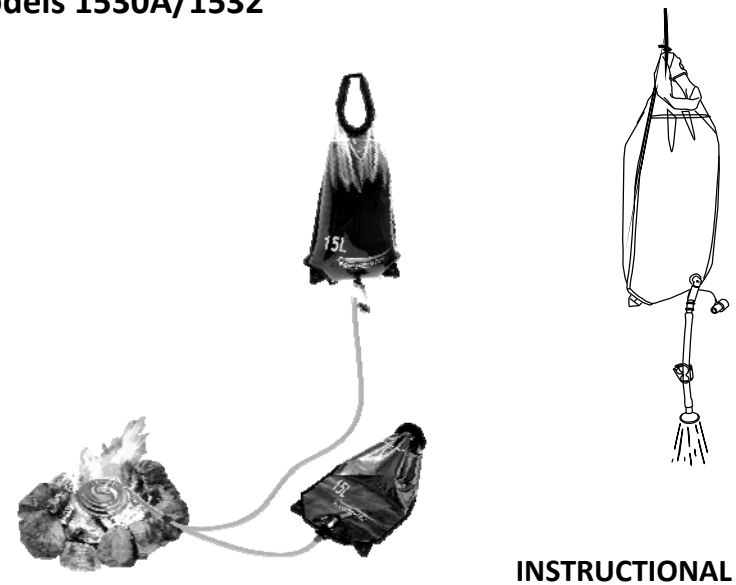
ShowerCoil™
Portable Water Heater and Shower

BoundaryTEC™
Outdoor Equipment

# ShowerCoil Instruction Manual

## Models 1530A/1532






**INSTRUCTIONAL VIDEO LINK**

| | |
|---|---|
| Please take a minute to register your product: www.boundarytec.com/register.php | **Scan this code** to play instructional video **or** enter the address below in a web browser: http:// youtu.be/FV5OJg3L02Q |

**U.S. Pat. No. 9,303,898**

## FOR OUTDOOR USE ONLY

**INSTRUCTIONS**

**IMPORTANT**
Read this entire manual carefully before setup, operation or repair of this product.
Keep this manual available for future reference.
If you have questions about setup, operation, or repair, please call BoundaryTEC, LLC. at **800.753.9943**, or email at **support@boundarytec.com**

## Important Safety Information · Read all safety information before operating the equipment. Save these instructions.

| | |
|---|---|
| Warning | **Indicates a hazardous situation which, if not avoided, could result in death or serious injury.** |
| | **For outdoor use only.**<br>Operate only in well ventilated areas clear of flammable materials.<br>Do not leave heating system unattended while in use.<br>Observe all applicable federal, state and local regulations when constructing a camp fire.<br>Keep children and pets clear of heating system when operating. |
| CO | **Using a stove to heat this product can produce carbon monoxide which has no odor.**<br>Use of this product in an enclosed space can result in death.<br>Do not use this product in an enclosed space such as a camper, tent, car or home.<br>Always defer to and follow stove manufacturer's instructions and safety requirements when using a stove in conjunction with this product. |
| | **Heating coil and system parts become hot during use**<br>Use care when placing or removing heating coil from heat. Do not directly touch heated parts.<br>Allow heating coil and sheath to cool before handling. |
| | **Do not operate if heating coil is kinked or damaged**. Doing so can cause excessively high water temperatures or burst heating coil. |



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| | |
|---|---|
|  | |
|  | **DO NOT HEAT COIL AT ANY TIME WITHOUT WATER FLOWING THROUGH SYSTEM.** Doing so can damage or melt the heating coil, prevent the system from priming, produce hot steam, and cause a risk of injury including burns. Remove coil from heat before water has completely drained from water supply bag. Failure to do so can damage the product, produce hot steam, and cause a risk of injury including burns.<br><br>**Misuse or abnormal operating conditions can produce hot steam**. Steam can cause damage to water bags and risk of injury including burns. Temperatures exceeding 212°F (100 C) are possible.<br>**In the event that steam is produced during operation** (indicated by a gurgling or hissing sound similar to a coffee maker brewing) First, immediately remove coil from heat without directly touching heated parts, then follow the troubleshooting recommendations in this manual.<br><br>**Always elevate the water supply bag** outlet 30-36 inches (76-91 cm) above the water collection bag during heating process. Failure to do so can produce excessive water temperatures, equipment damage, and risk of injury including burns.<br><br>**Heat only clean water** with this product – Water containing debris can clog thermostat, block flow and cause hot steam and a risk of injury including burns and equipment damage.<br><br>**Do not use mouth to siphon or purge water through the heating system**. Doing so with a hot system can cause severe burns of the mouth and throat. |
| | **Do not leave heating system unattended while in use.**<br><br>**Test water temperature before showering.**<br><br>**Heated water not for consumption.**<br><br>**System not designed to heat water above 115°F (46 C).**<br><br>**Do not modify or alter the product in any way.**<br><br>**Use this product only as instructed in this manual.** |





## Contents



## Specifications

| | Model 1530A | Model 1532 |
|---|---|---|
| **Weights** | | |
| Heating Coil Assembly | 15 oz /425 g | 15 oz /425 g |
| Water Bag (ea.) | 7.0 oz / 200 g | n/a |
| Dry Weight (System) | 30 oz / 850 g | 16.6 oz / 470 g |
| **Dimensions** | | |
| Heating Coil Assembly (packed) | 8” Dia. x 2”H / 20 cm Dia. x 5 cm H | |
| Inlet Tube Length | 76” / 1.9 m | |
| Outlet Tube Length | 32” / 0.8 m | |
| Shower Capacity | 4 gallons / 15 liters | n/a |
| Temperature Selector Range | 85˚F – 115˚F / 30 C – 46 C | |
| Shower Run Time (4 gal.) | 8-9 min. | n/a |
| For Use with Stove Type | Single Burner Backpacking Stove 10,000-15,000 BTUH Output | |
| Adapter Kit Fits third party solar shower port outer diameter | n/a | 0.43-0.50” (11-12.7mm) |

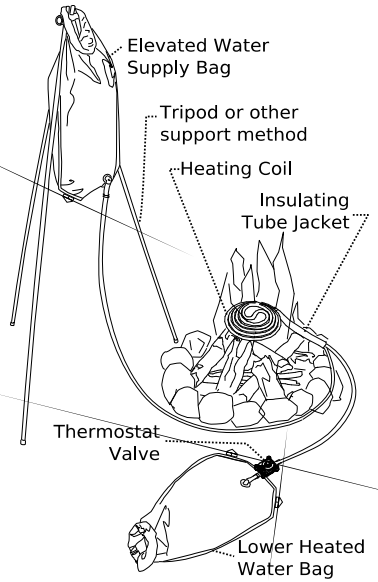
## Product Overview

You have just purchased one of the most effective portable water heater and shower systems available. **ShowerCoil™ Portable Water Heater and Shower** enables you to enjoy a hot shower virtually anywhere in just **2 basic steps**.

### 1 Heat Water

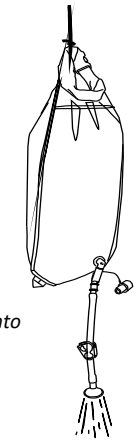
The *ShowerCoil* system heats water using either a camp fire or a stove. Water can be heated to an accurate temperature typically in about 10-15 minutes.

Gravity causes water to flow from an elevated cold water supply bag, through a heating coil, and into the lower heated water collection bag. A thermostatic valve regulates the flow rate of the water to deliver an accurate heated water temperature for use in Step 2.




### 2 Use like a solar shower

After the heating process is complete, a gravity fed shower or other cleanup function can be implemented by attaching the shower head and suspending the shower bag overhead from a tree limb or other structure.



*Remember to dispose of wash (gray) water responsibly. Wash yourself or dishes at least 150 feet away from streams or lakes to avoid soap run-off into a natural water source. Check with the appropriate park district or campground to learn about their specific gray water disposal policy.*



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## Description of Contents

Your new shower system should contain the following items:


**Includes:**

| | | 1530A | 1532 |
|---|---|---|---|
| **Item** | **Description** | **Qty** | **Qty** |
| A | Heating Coil Assembly | 1 | 1 |
| B | 15L Universal Bag | 2 | - |
| C | Shower Head Assembly with Pinch Valve | 1 | 1 |
| D | Heat Deflector - Improves heating efficiency when heating with a stove. | 1 | 1 |
| E | Y-Stand - Embeds into ground for tube support when heating with a stove. | 1 set (2 pcs) | 1 set (2 pcs) |
| F | Drawstring Storage Bag | 1 | 1 |
| G | Adapter kit (for connecting heating coil to third party solar showers) | - | 1 pair |
| | 10x10" Poly Bag – (not shown) Do not discard this bag. (This poly bag can be used to pre-wrap the coil before storing in drawstring bag. The exterior of the coil may become dirty with creosote when heated with a camp fire.) | 1 | 1 |
| | Manual | 1 | 1 |
| | Instructional video web link (see front of manual) | | |



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## Before you begin

Model 1532 only - Preparing third party solar showers for use with system.

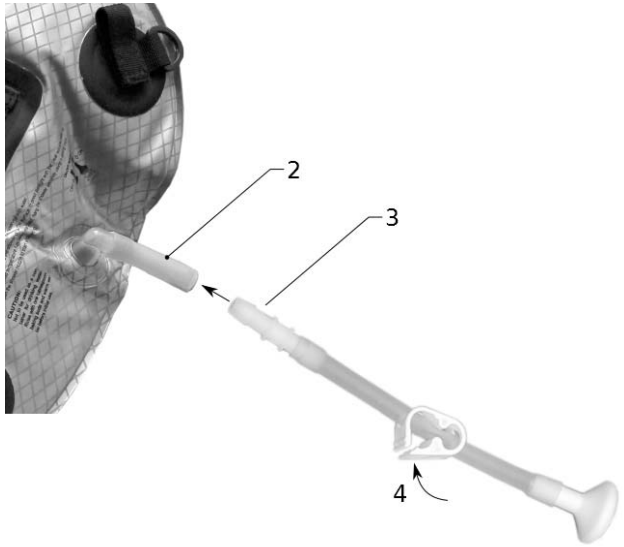
Water containers that have shutoff valves at the outlet port are not advised for use with the ShowerCoil system. However, if they ***are*** used, extra care must be taken to ensure each valve is fully open during the heating process to maintain unrestricted water flow. Failure to do so can damage or melt the heating coil due to absent or inadequate water flow and produce steam or overheated water causing a risk of injury including burns.

1. Remove existing shower hoses from outlet port of third party solar showers if present.

2. Slide supplied adapter connectors onto outlet ports.
   a. Outlet port outer diameter of solar shower must be between 0.43-0.50 inches (11-12.7mm).

3. Before filling cold water supply bag, temporarily insert supplied shower head into adapter connector to plug outlet.

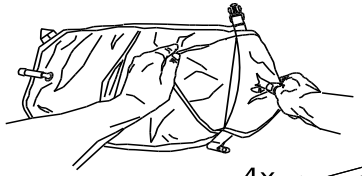
4. Close pinch valve





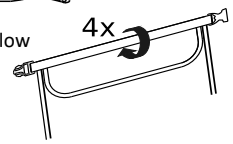



## Operation – Water Heating

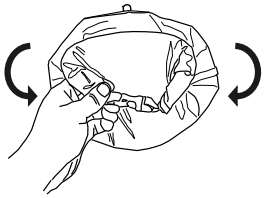


5. **Fill Supply Water Bag.**
   a. Fill one bag with clean water.

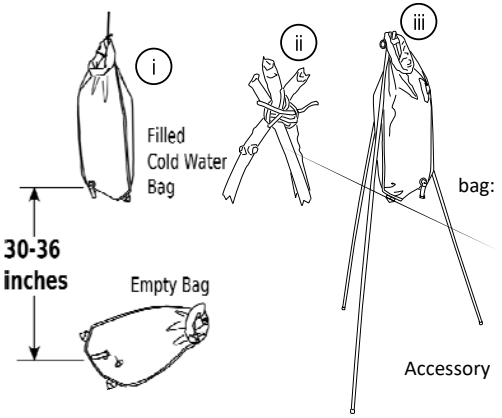
   Note: If collecting water from a lake or river, hold the bag as shown below and horizontally scoop undisturbed water a few inches below the surface. This technique allows the cleanest water to be collected.




   b. Fold the top flap toward the front translucent side of the bag and press out some of the trapped air.
   c. Roll over the top edge of the bag **4x** towards the front translucent side of the bag while ensuring that the front ply of the bag stays in contact with the back ply and does not slide apart or wrinkle.
   d. Bend the ends of the buckles back around toward the fabric side of the bag and snap.



6. **Elevate Supply Bag**
   a. Suspend the filled supply bag as shown so its drain port is 30-36 inches above the empty bag on the ground.
   b. Suggested options for suspending bag:
      i. Suspend from tree limb if available.
      ii. Field constructed tripod
      Lash 3 sticks together with a cord as shown. Sticks should be about 5 feet in length.
      iii. BoundaryTEC Aluminum Tripod Stands
      PN: 1540 or 1542.




7. **Uncoil heating assembly** and straighten out rubber tubing, ensuring there are no kinks.

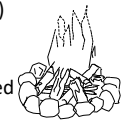
8. **Flatten and force any air out of the empty bag** before closing up. Evacuating the air will ensure there is enough room for the all of the flowing water during the heating process.

   a. Ensure the lower empty bag is equal to or larger in size than the supply bag if using 3rd party shower bags.

Failure to follow steps 2-4 can cause inadequate water flow during heating and produce steam or overheated water.

9. **Drain heating coil of any residual water left inside from prior use.**

10. **Prepare heat source.** (Perform step *a* if heating with a fire, and *b* if using a stove) (See heating recommendations section, pg. 12)



    a. **Camp Fire** - Prepare and start a camp fire with dry wood in a contained fire ring or pit.

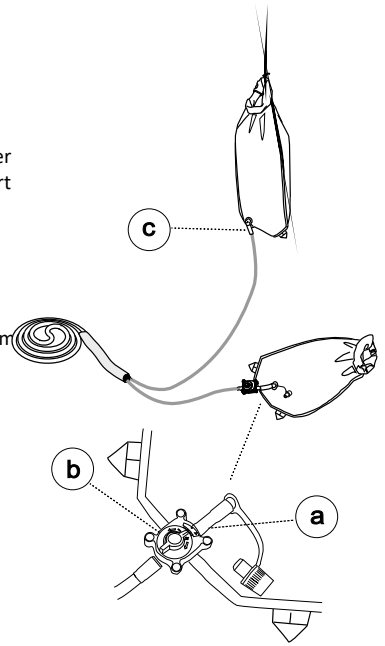
**Observe all applicable federal, state and local regulations when constructing a fire.**

    b. **Stove** – Light stove.

    c. **DO NOT PLACE COIL ON CAMP FIRE OR STOVE UNTIL INSTRUCTED.**

**DO NOT HEAT COIL AT ANY TIME WITHOUT WATER FLOWING THROUGH SYSTEM.** Doing so can damage or melt the heating coil and cause a risk of injury including burns.

11. **Interconnect the heating system**
    a. Remove the black purge valve from the short rubber tube at the base of the bag on the ground and insert the thermostat port into the tube.
    b. Set desired temperature on the thermostat. Use setting #4 (100F) if unsure. (see "Tips' section for recommended temperatures)
    c. Connect the blue supply tube to the short tube at the base of the elevated bag. To prevent water from spilling, pinch the short tube attached to the bag while removing the purge valve and connect the supply tube.

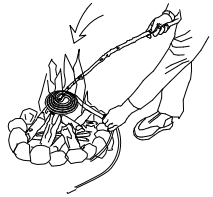



12. **Verify that air bubbles have purged** through the tubing and water has started to flow into empty bag.





**Heating coil and system parts become hot during use.** Use care when placing or removing heating coil from heat. Do not directly touch heated parts. Allow heating coil and sheath to cool before handling.



13. **Place coil over heat using a stick.**

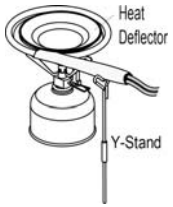
    a. **Camp Fire** (See heating recommendations section, pg. 12)

        i. The coil should be in a concave down position to help the coil balance properly on top of the fire wood.

        ii. Do not use the heat deflector with a camp fire.

        iii. Shield the bag on the ground to prevent damage from potential "popping" embers.

    b. **Stove** (Single Burner Backpacking Stove 10,000-15,000 BTUH Output) (See heating recommendations section, pg. 12)



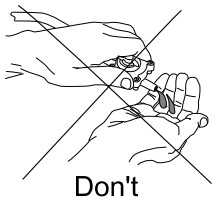

        i. The coil should be centered on the stove in a concave up position with the heat defector in the center of the coil.

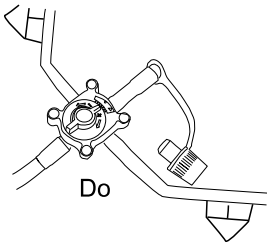
        ii. Assemble the Y-Stand and push it into the ground to support the end of the tube jacket.

**Important!** **Do not heat exposed rubber tubing.**

**Note** **It is normal for water drops to condense and drip from the coil when heating.**

**Important!** **Do not directly use or test water flowing from the thermostat valve during the heating process.** The thermostat's normal temperature oscillations prevent setting the temperature by "feel". Always use a water collection bag to equalize the water temperature and let the thermostat do its job.



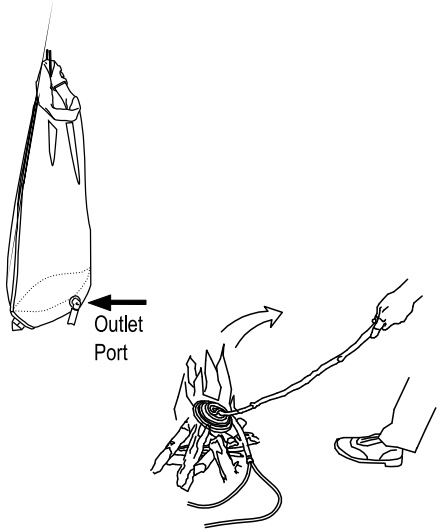
**Important!** **Do not leave system unattended while in use.**

**Misuse or abnormal operating conditions can produce hot steam.**
Steam can cause damage to water bags and risk of injury including burns. Temperatures exceeding 212° F (100 C) are possible.

**In the event that steam is produced during operation** (indicated by a gurgling or hissing sound similar to a coffee maker brewing) First, immediately remove coil from heat without directly touching heated parts, then follow the troubleshooting recommendations in this manual.

14. **REMOVE coil from the heat source using a stick BEFORE water level reaches the outlet port of supply bag.**

**Note:** There will remain a small amount of water in the bag below the outlet port. The water will not completely empty from the bag.




15. **See - Shower Operation (pg. 13)**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## Heating Recommendations

The *ShowerCoil* thermostat valve is very effective in controlling the heated water temperature across a range of temperature and conditions. However, to ensure accurate water temperatures, follow the heating recommendations below.

| Supply Water Temperature (°F) | Camp Fire Flame Coverage on Coil | Stove Heat Setting |
|---|---|---|
| Very Cold 35-50 °F | 50 - 100%  | N/R |
| Cold 50-65 °F | 40 - 80%  | HIGH |
| Cool 65 - 75 °F | 30 - 60%  | HIGH |
| Luke Warm 75 - 90 °F | 20 - 40%  | MED |

| | |
|---|---|
| **N/R** | Not Recommended |
| **Important!** | Do not exceed maximum recommended heating intensity. Doing so can produce water temperatures which exceed temperature setting. |
| **Note** | Normal heating times for a **full bag** of water will range from **10-18 minutes**. If actual times are outside of this range, recheck the heat intensities above and refer to the Troubleshooting section of this manual. |
| **Tip** | A fresh camp fire with flames passing over the coil will give the best heating results. |
| **Tip** | Insulate the lower (heated) water bag from the ground by placing it on a towel or foam pad when the outside temperature is cool (<65˚F / <18 C). |


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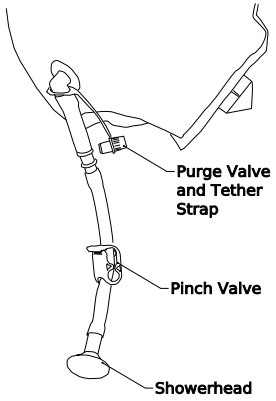
## Operation - 15L Universal Bag

### Instructions – as Shower




1. After the heating process is finished and the heating coil has been removed from the heat, remove the thermostat valve from the heated water bag and insert the showerhead assembly into the short tube attached to the bag.
2. To prevent water from spilling, pinch the short tube attached to the bag while removing the thermostat valve and connect the showerhead assembly.
3. Make sure the pinch valve is closed to prevent leakage.
4. Hang bag from a tree limb, BoundaryTEC Shower Tripod (1542), or other structure. (see 'Tips' section for help with lifting the bag overhead)
5. Use thumb and forefinger to control the pinch valve for on/off and flow adjustment.
6. The sealed bags will slow down heat loss. See cool down times in the 'Tips' section of this manual for recommended times in which to use hot water before a detectable drop in temperature takes place.
7. Test water before showering.

### Instructions – for Storing and Dispensing Drinking Water

**WARNING! Follow safety instructions below to reduce the risk of gastrointestinal illness which may be caused by consuming water contaminated with harmful microorganisms.**

Sanitize potentially contaminated bags, tubing and parts before contact with drinking water.

Clearly identify bags and tubing as "clean" or "dirty".

Keep potentially contaminated tubes, parts, and water away from clean water to prevent cross contamination.

### Sanitizing Instructions

1. Mix a mild bleach solution in the bag by adding 2 teaspoons of unscented liquid household chlorine bleach to 1/2 gallon of water. (10 ml bleach per 2 liters water)
2. Press out excess air, then roll down the top closure loosely (2x).
3. Grasping each end of the bag, tip bag back and forth a few times so that all inner areas of the bag, tube, and nozzle are wetted. A small amount of solution should drip from the top end of the bag; drain into sink (if indoors).
4. Open valve to allow solution to flow through tubing and parts.
5. Wait 30 seconds then drain solution.
6. Thoroughly rinse bag, tube, and parts with clean water.
7. Hang bag upside down to air dry or dry with a clean towel.

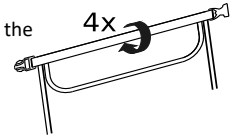
### Instructions – as Dry Bag

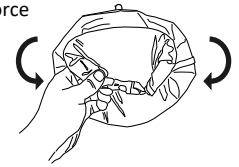
1. Fill bag with gear.
2. Fold the top flap toward the front translucent side of the bag and press out some of the trapped air.





3. Roll over the top edge of the bag **4x** towards the front translucent side of the bag while ensuring that the front ply of the bag stays in contact with the back ply and does not slide apart or wrinkle
4. Bend the ends of the buckles back around toward the fabric side of the bag and snap.
5. To Compress: (if desired) Unscrew purge valve 1 turn, compress bag to force out excess air. Close purge valve.



* Properly sealed bag will float or can withstand full submersions up to 3 meters deep for short intervals.

## Tips and Information

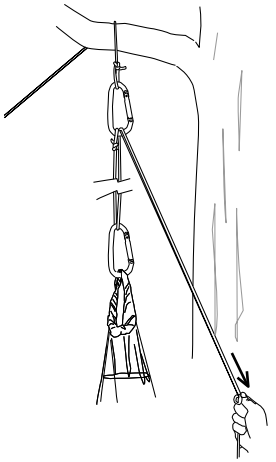
- **Suggested Water Temperature Setting**

| Air Temperature | Recommended Water Temperature Setting |
|---|---|
| 60-65°F (15.6-8.3 C) | #7 - 115°F (46.1 C) |
| 65-70°F (18.3-21.1C) | #6 – 110°F (43.3 C) |
| 70-75°F (21.1-23.9 C) | #5 – 105°F (40.6 C) |
| 75-80°F (23.9-26.7 C) | #4 – 100°F (37.8 C) |
| 80-85°F (26.7-29.4 C) | #3 – 95°F (35.0 C) |
| 85-90°F (29.4-32.2 C) | #2 – 90°F (32.2 C) |

**Note:** These settings are suggestions. You'll develop a good feel for your preferred temperatures after using the system a few times.
For optimum comfort, the air temperature should be at least **60°F** for an open air shower.
**Always test water before showering.**

- **Preheat Water in Sun**
  If you are able to plan in advance for a shower and have some time to at least partially heat the water in the sun, this is a great way to save time and fuel later when you are ready to heat the water to temperature with your stove or camp fire. **Note:** Remember to reduce the heat intensity according to heating recommendations section, pg 12.

- **Lifting Water Bag – Simplified Block and Tackle (see fig.)**
  A helpful method for lifting the water overhead is to construct a simplified block and tackle. By using two carabiners and two lengths of braided nylon cord, the bag filled with water becomes much easier to lift. Tie one end of the first cord to one of the carabiners, and then hang it over a tree limb that is 8-10 feet high. Tie the second cord to the upper carabiner, loop it through the bottom carabiner, and then back through the upper carabiner. Adjust the height of the upper carabiner by pulling the first cord and then tie it off. Attach the shower bag to the bottom carabiner. Pull on the free end of the second cord and at the same time lift up on the water bag. Tie off the second cord.



- **Windy Conditions with Stove**
  Windy conditions can cause the heating efficiency of a stove to drop significantly. For best heating performance, shield system from wind in compliance with stove manufacturer's operating instructions.

- **Water Temperature Cool down Chart**
  The sealed water bags do slow down heat loss, but of course the temperature will eventually drop over time. The following chart will help give a general indication of how soon the heated water should be used after heating to prevent excessive temperature drop.

**Time to Drop 3°F (1.7 C)**

| Air Temp | | Initial Water Temperature (4 gallons / 15 l) | | | | | |
|---|---|---|---|---|---|---|---|
| °F | °C | 90F (32.2C) | 95F (35 C) | 100F (37.8 C) | 105 (40.6 C) | 110 (43.3 C) | 115 (46.1 C) |
| 50 | 10.0 | 27 min. | 24 min. | 22 min. | 20 min. | 18 min. | 17 min. |
| 60 | 15.6 | 37 min. | 31 min. | 27 min. | 24 min. | 22 min. | 20 min. |
| 70 | 21.1 | 57 min. | 45 min. | 37 min. | 31 min. | 27 min. | 24 min. |
| 80 | 26.7 | 2 hrs | 78 min. | 57 min. | 45 min. | 37 min. | 31 min. |
| 90 | 32.2 | | 5 hrs | 2 hrs | 78 min. | 57 min. | 45 min. |

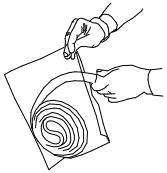
**Chart shows approximate times in which the temperature of a full water bag drops 3 °F (1.7 C).**

- **Shower Mat**
  To keep your feet clean when showering, bring along a small piece of poly tarp or plastic to stand on.

## Storage

**Heating Coil**

1. After it has cooled off, hold up the heating coil assembly to drain any residual water out of the tubes before storing.
2. Place heating coil into the poly bag before wrapping up and storing in drawstring bag. This will contain any creosote which may have accumulated on the coil.



**15 Liter Universal Bags**

1. Sanitize and dry bags before or after long-term storage (see page 13 for instructions).
2. Store flat or roll as shown.



## Maintenance

1. **Heating Coil – Cleaning Creosote**

   If you use a camp fire to heat the coil, creosote (soot) can build up on the exterior of the heating coil over time. This buildup will not cause any damage to the coil but can lower the efficiency of the heating system.

   If desired, a heavy duty household oven cleaner can be used periodically to remove this creosote coating from the outside of the coils. Follow oven cleaner manufacturer's directions.

   **Rinse thoroughly** and allow to dry before storing or using.




2. **Thermostat Inspection**
   The thermostat may be opened up periodically (yearly) to check for debris and verify function.

**Important!** Do not attempt to remove the set screw on the end of the thermostat dial. This will cause the thermostat to lose its calibration, possibly causing excessive water temperatures or hot steam during operation posing a risk of injury including burns.

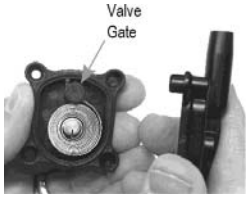
**To check the thermostat:**


a. Remove the (4) Phillips screws holding the thermostat case together.

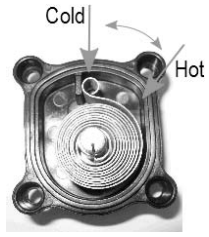
b. **Before separating** the case turn the case over with the dial toward the ground. This will help prevent the small black valve gate from falling out and getting lost.

c. Remove the small black valve gate and set aside.

d. Look over the inside of the housing:




   i. **Check for Debris:** Remove any debris if found.
   ii. **Check Function:**
      1. Set thermostat dial to the center position (#4).
      2. Run hot tap water over the bimetal coil. The formed end of the coil should rotate outward to the edge of the housing.
      3. Run cold tap water over the bimetal coil. The end of the coil should rotate to the middle of the housing and rest against the stop.
      4. Replace thermostat assembly if function does not match the above description.




   iii. **Check for Corrosion:** Over time the inner bimetal coil may show some white rust as well as some localized areas of red rust. This is normal and will not impact the thermostat accuracy. If excessive red rust is seen (possibly after a several years of use), the thermostat should be replaced to ensure its accuracy. See the 'Service Parts' section of this manual and contact BoundaryTEC to order a replacement thermostat.

e. Assemble the thermostat in reverse order, **making sure not to forget the small black valve gate** into the formed end of the bimetal coil. Torque (4) screws 4-6 in-lbs.

## Troubleshooting

| Problem | Possible Causes | Solutions |
|---|---|---|
| **Time required to heat water was very long and temperature was cooler than expected. (18+ minutes)** | 1. Heat intensity is too low given the initial water temperature and the selected final water temperature.<br><br>2. Windy conditions causing poor heating efficiency with stove.<br><br>3. Heat deflector was not used when heating with a stove. | 1. Repeat heating.**<br><br>2. Repeat heating, shielding system from wind according to stove manufacturer's operating instructions.**<br><br>3. Repeat heating, positing the heat deflector in the center of the coil.**<br>**If **reheating** water, use a reduced heat intensity according to the chart on pg 12 to avoid temperature overshoot. |
| **Heated water is cooler than expected.*** | 1. Thermostat temperature dial was not set properly.<br><br>2. The elevated water bag was positioned too high.<br><br>3. Faulty thermostat valve. | 1. Set the preferred temperature on the dial. Repeat heating.**<br><br>2. Elevate bag as shown on pg 8 and connect system as shown on pg. 9. Repeat heating.**<br><br>3. Inspect thermostat valve (see maintenance section)<br><br>**If **reheating** water, use a reduced heat intensity according to the chart on pg 12 to avoid temperature overshoot. |
| **Heated water is warmer than expected.*** | 1. Thermostat temperature dial was not been set properly.<br><br>2. The elevated water bag was positioned too low.<br><br>3. Heat intensity is too high given the initial water temperature and the selected final water temperature.<br><br>4. Faulty thermostat valve. | **For an Immediate Solution** #1 - 4 **:** Dilute bag with cold water or allow water to cool before using.<br><br>1. Set the preferred temperature on the dial.<br><br>2. Elevate bag as shown on pg 8 and connect system as shown on pg. 9.<br><br>3. Adjust heat intensity within recommendations on heating chart. (see pg. 12.)<br><br>4. Inspect thermostat valve (see maintenance section) |

**(continued)**



**Questions?**
**800.753.9943**
**support@boundarytec.com**
**www.boundarytec.com**



| Problem | Possible Causes | Solutions |
|---|---|---|
| **Water does not flow after interconnecting the heating system.** | 1. Supply water bag is not elevated and connected properly.<br><br>2. The rubber tubing is kinked.<br><br>3. Thermostat valve is clogged. | 1. Elevate bag as shown on pg 8 and connect system as shown on pg. 9.<br><br>2. Straighten tubing to remove kink.<br><br>3. Inspect thermostat valve (see maintenance section) |
| | **In the event that steam is produced during operation**<br>(indicated by a gurgling or hissing sound similar to a coffee maker)<br>First, immediately remove coil from heat without directly touching heated parts or tubing, then follow troubleshooting recommendations below. | |
| **Steam is produced while heating coil**. | 1. Cold water bag is not elevated and connected properly.<br><br>2. Heat was applied to the coil before all air was purged and water was flowing through system.<br><br>3. Coil was not removed from the heat before the water level fell to the outlet port of the elevated bag.<br><br>4. The rubber tubing is kinked<br><br>5. The system is air-locked. This may occur if the coil is not properly drained from a previous use.<br><br>6. Thermostat valve is clogged or faulty. | 1. Remove coil from heat. Elevate bag as shown on pg 8 and connect system as shown on pg. 9. Verify air has purged and water is flowing into lower bag. Resume heating.<br><br>2. Remove coil from heat. Verify air has purged and water is flowing into lower bag. Resume heating.<br><br>3. Remove coil from heat. Allow to cool before handling. (In the future, remember to remove coil from heat before the water level of the elevated bag falls to the outlet port.)<br><br>4. Remove coil from heat. Straighten rubber tubing to remove kink. Verify air has purged and water is flowing into lower bag. Resume heating.<br><br>5. Remove coil from heat. Allow to cool before handling. Disconnect heating coil assembly from bags, properly drain coil and tubes. Reconnect. Verify air has purged and water is flowing into lower bag. Resume heating.<br><br>6. Remove coil from heat. Allow system to cool. Inspect thermostat valve (see maintenance section). |



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## Service Parts

Repairs to heating coil or thermostat calibration should be done only by BoundaryTEC or an authorized service person.

The following replacement parts or subassemblies are available from BoundaryTEC. Please contact BoundaryTEC for pricing.

| Item | Description | Part Number |
|---|---|---|
| A | Heating Coil Assembly (includes thermostat assembly) | 1590 |
| B | 15L Universal Bag | 1571 |
| C | Shower Head Assembly with Pinch Valve | 1580 |
| D | Heat Deflector | 1600 |
| E | Y Stand (set) | 1610 |
| F | Drawstring Storage Bag | 1630 |
| G | Thermostat Assembly | 1620 |
| H | Adapter kit (includes 2 connectors) | 1670 |



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**Warranty**
**One Year Limited Warranty**

BoundaryTEC, LLC. (“BoundaryTEC”), to the original owner ("Owner"), warrants that for a period of one year from the date of purchase, the enclosed product (“Product”) will be free from defects in material and workmanship. BoundaryTEC, at its option, will repair or replace this Product or any component of the Product found to be defective during the warranty period.

This warranty is valid for the original Owner from the date of initial retail purchase and is not transferable. Warranty claims must be accompanied by the original sales receipt.

This warranty does not cover damage from normal wear and tear of parts. This warranty does not cover damage resulting from misuse or modification of the Product, use contrary to the operating instructions or failure to follow maintenance instructions, commercial for-profit or non-profit instructional or rental applications, disassembly, repair or alteration by anyone other than BoundaryTEC or an authorized service center.

BOUNDARYTEC SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED IN DURATION TO THE DURATION OF THE ABOVE WARRANTY.

This limited warranty gives Owner specific legal rights; Owner may have additional rights, which may vary state to state.

**How to Obtain Warranty Service:**
For warranty service, contact BoundaryTEC by phone or email to obtain a return authorization number and further instructions. Owner is responsible for costs associated with returning Product to BoundaryTEC for warranty service. Where at its discretion, BoundaryTEC deems Product eligible for warranty repair or replacement, BoundaryTEC will pay the shipping and handling associated with returning repaired or replaced Product to Owner.

- **Phone:** 800.753.9943
- **Email:** support@boundarytec.com

DO NOT RETURN THIS PRODUCT TO PLACE OF PURCHASE.
If you have any questions about this warranty please contact BoundaryTEC.


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