REDWOOD OUTDOORS

Owner's Manual

Cold Plunge Chiller / Deluxe Heater + Chiller

View this manual online
here

View the assembly video
here

Contact Info

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Version

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Version: 3.0

Important Information

Safety and Usage Information

Please read and understand the complete instructions prior to assembly and use of your chiller. Customer agrees not to hold Redwood Outdoors or any of its authorized dealers liable for improper installation, maintenance, and repair of this product.

1. The chiller must be used with a grounded socket.

2. Test the GFCI breaker before your first use and weekly thereafter. If the GFCI breaker does not function, contact Redwood Outdoors for assistance.

3. The chiller cannot be immersed in water. If the chiller is immersed/submerged in water, it will no longer function, and its warranty is void.

4. The chiller is rated to IPX4, however, avoid leaving it out in the rain. The chiller is made of metal and will rust if left wet. Damage caused by improper storage is not covered by the chiller's warranty.

5. Turn off the chiller's GFCI switch before getting into the water.

6. Keep away from children.

7. Keep hair, fingers, etc. away from the fan while in use.

8. The area around **all sides** of the chiller must be well-ventilated. Poor ventilation will lead to slow heating/cooling. There should be **at least** 3ft of open space behind the fan.

9. The chiller's maximum ambient operating temperature is **115° F**. Your chiller will not work if the air temperature in your area exceeds 115° F. The chiller may turn on, but the chiller's efficiency will be extremely low.

10. If you have purchased a Cold Plunge Chiller (i.e., a chiller **without dual heating function**), the minimum ambient temperature is **35° F**. If used in freezing temperatures, ice will form on the internal components and damage the machine. Damage caused by use in freezing temperatures is not covered by the chiller's warranty.

11. If you have purchased a Deluxe Cold Plunge Dual Chiller + Heater (i.e., a chiller **with dual heating function**), the heating efficiency will drop when the temperature is < **40° F** (longer heat-up times). In humid areas (i.e., >80% RH), heating performance may drop before **40° F**. Our tubs are not designed to hold high temperatures in harsh winter conditions, and in freezing conditions of < **25° F**, your tub may not reach it's set temperature.

12. The chiller is not designed for use in < **5° F** as the chiller's lubricating oil may freeze and cause the machine to seize.

13. Do not use the chiller if the plug or power cord is damaged.

Chiller Exterior

Exterior Features

We are constantly working to improve our products. As a result of ongoing design improvement, the chiller you receive may vary from the description below. The information in this section should be used for reference only.

#	Name	Function
1	**Carrying Handles**	Used to pick up and carry the chiller. They can be flipped up/down.
2	**Display**	The chiller is controlled via the display. The display features are explained later in this manual.
3	**Filter Casing**	This is where the micron filter is housed. The chiller comes with one filter. Remove the plastic from the outside and place it inside the casing to use.
4	**Water Outlet**	Water flows out of the chiller and back to your tub through this outlet.
5	**Water Inlet**	Water flows into the chiller from your tub through this outlet.
6	**Air Intake**	Ambient air is sucked into the chiller through this grate. Ensure that it is not blocked. There is an identical grate on the opposite side.
7	**Power Cord**	Power is delivered to the chiller via this cord. The chiller is rated for US household voltage.
8	**Fan**	Hot/cold air is expelled from the chiller via the fan. There should be at least 3ft of open space behind the fan to allow hot/cold air to dissipate.
9	**Drain**	As the machine cools/heats the water, condensation will form on the internal components. Condensation will flow out of this drain pipe. We recommend placing a drip tray under it if the chiller is used indoors.
10	**Wheels**	The chiller can be tilted on its side and rolled. The wheels can be locked to prevent movement.

Chiller Accessory Parts

Chiller Accessory Parts List

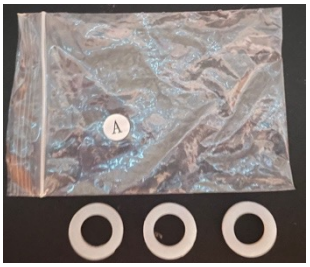
Your chiller will come with a bag of accessory parts. Some of these parts are spares and should be kept for the future, and some are required for setup. The parts are explained in detail on the next page.

#	Name	QTY	Notes
N/A	Filter Wrench	1	
A	Flat Gaskets	3	Not required and no longer provided with chiller as of fall 2024
B	Hose Gaskets	5	
C	Inlet Gasket	1	
D	Strainers	3	
E	Adapters	3	Not required and no longer provided with chiller as of fall 2024
F	Inlet Cover	1	The design of this part will change as of winter 2025

Chiller Accessory Parts

Filter Wrench

This is used to attach the filter casing to the chiller. It should be used to tighten/loosen the filter casing. If it is not used, the filter seal may not be tight enough.



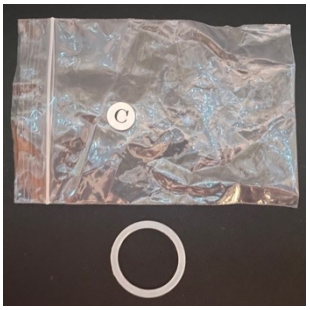
Flat Gaskets

These are used inside the wide (female) end of the Adapters.

These are not provided with our newest chillers as they are pre-installed on the Yukon plunge tub.

Hose Gaskets

These are used inside the water hoses. **They are spares**, the hoses you receive should have gaskets pre-installed.



Inlet Gasket

This is used at the chiller inlet. **It is a spare**, your chiller should have a gasket pre-installed at the inlet point.

Strainers

These are used in 2 locations. (1) at the chiller inlet and (2) at the ends of the inlet hoses on some plunge tubs. **Strainers must be used** to prevent damage to the water pump.

Adapters

These convert the DN15 hose to match the Yukon plunge tub's DN20 connection points.

These are not provided with our newest chillers as they are pre-installed on the Yukon plunge tub.

2024 Inlet Cover

This cover is installed onto the chiller's inlet point over the top of the stainer. The inlet hose will connect to the male threaded end of this cover.

2025 Inlet Strainer

This combined strainer and cover is installed onto the chiller's inlet point over the top of the stainer. The inlet hose will connect to the male threaded end of this strainer.

Chiller Display

#	Name	Function
1	**ON/OFF Button**	Press and hold for 2 seconds to start or stop. It is normal to have a 5-10 minute delay while the system pressurizes.
2	**UNITS Button**	Press and hold to change between C and F.
3	**SET Button**	Tap to enter the temp set mode. Tap to confirm after the temp is set.
4	**WIFI Button**	Press and hold until the Wi-Fi icon starts blinking to pair with the app.
5	**UP TEMP Button**	Tap to increase set temp (while in temp set mode).
6	**LOCK Icon**	Press and hold UP TEMP and DOWN TEMP to lock/unlock the display.
7	**DOWN TEMP Button**	Tap to decrease set temp (while in temp set mode).
8	**FLOW RATE Icon**	The waters flow rate (in L/min).
9	**MODE Icon**	The chiller's operating mode (should read "Default").
10	**DEFROST Icon**	Whether the chiller is defrosting (**only** the Dual Heater + Chiller has defrost functionality).
11	**SYSTEM Icon**	The chiller's current state (should "Heat", "Cool" or nothing).
12	**FUNCTIONALITY Icon**	The flame indicates the chiller has heating functionality. The snowflake icon indicates the chiller has cooling functionality.
13	**CURRENT TEMP Icon**	The temperature of the water flowing through the chiller.
14	**SET TEMP Icon**	The chiller's target temperature.

Chiller Setup (2024)

Setup Videos

If you are using the chiller standalone or with an Alaskan Plunge Tub, refer to the video below for detailed setup instructions

https://www.youtube.com/watch?v=iFIW_Wld0L8

If you are using the chiller with a Yukon Cold Plunge Tub, refer to the video below for detailed setup instructions

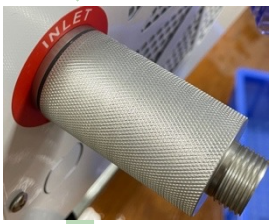
https://www.youtube.com/watch?v=rcpJ6OiI4ao

Quick Reference Guide

The setup steps are briefly summarized below. For detailed instructions, refer to the videos.

Screw a strainer into the chiller **inlet**. Ensure a gasket is in place over the inlet point (this should be pre-installed for you).

Note that in 2025, our strainer design will change. If you have received a new design strainer, follow the steps on page 9.



Fasten the inlet cover onto the chiller inlet over top of the strainer. Ensure the connection is tight, loose connections lead to air leaks which prevent the chiller from starting.

Note that in 2025, our inlet cover will change. If you have received a new design strainer, follow the steps on page 9.

Attach the water hoses to the side of the machine. The **y-shaped** hose connects to the chiller **inlet**. The **straight** hose connects to the chiller **outlet**.

Next page

Chiller Setup (2024)

Remove the plastic film from the outside of the micron filter and put inside the casing. Use the filter wrench to fasten the filter casing back onto the chiller. If the filter wrench is not used, there may be air leaks that prevent the chiller from pressurizing.

Yukon or Alaskan Tubs

Connect the ends of the y-shaped hose to the two outlets at the bottom of the tub. Connect the straight hose to the inlet at the top of the tub.

Ensure the tub's outlets are fully submerged before turning on the chiller.

Tubs Sourced from a Different Company

Fasten strainers into the ends of the y-shaped hose. Submerge under the water inside the tub. Place the straight hose over the tub edge so the water flows into the tub.

Ensure the water hoses are fully submerged before turning on the chiller.

Chiller Setup (2025)

Setup Videos

If you are using the chiller standalone or with an Alaskan Plunge Tub, refer to the video below for detailed setup instructions

https://www.youtube.com/watch?v=iFIW_Wld0L8

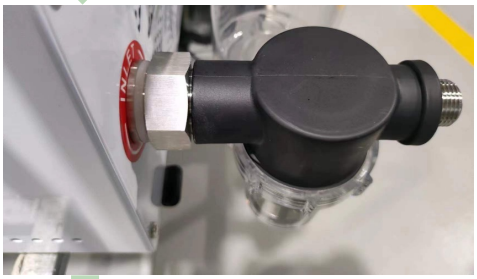
If you are using the chiller with a Yukon Cold Plunge Tub, refer to the video below for detailed setup instructions

https://www.youtube.com/watch?v=rcpJ6OiI4ao

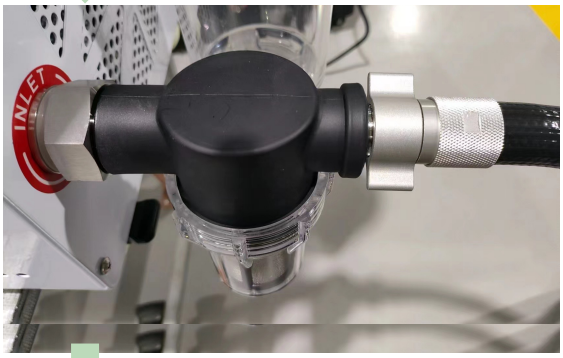
Quick Reference Guide

If you have received one of the new combined inlet cover/strainers, please follow these steps. The new cover strainers will be paired with the chiller starting in 2025.

Screw a strainer into the chiller **inlet**. Ensure a gasket is in place over the inlet point (this should be pre-installed for you).



Tighten the strainer and make sure it is positioned such that the clear cover is facing toward the ground.



Attach the water hoses to the side of the machine. The **y-shaped** hose connects to the chiller **inlet**. The **straight** hose connects to the chiller **outlet**.

Next page

Chiller Setup (2025)

Remove the plastic film from the outside of the micron filter and put inside the casing. Use the filter wrench to fasten the filter casing back onto the chiller. If the filter wrench is not used, there may be air leaks that prevent the chiller from pressurizing.

Yukon or Alaskan Tubs

Connect the ends of the y-shaped hose to the two outlets at the bottom of the tub. Connect the straight hose to the inlet at the top of the tub.

Ensure the tub's outlets are fully submerged before turning on the chiller.

Tubs Sourced from a Different Company

Fasten strainers into the ends of the y-shaped hose. Submerge under the water inside the tub. Place the straight hose over the tub edge so the water flows into the tub.

Ensure the water hoses are fully submerged before turning on the chiller.

Strainer Cleaning

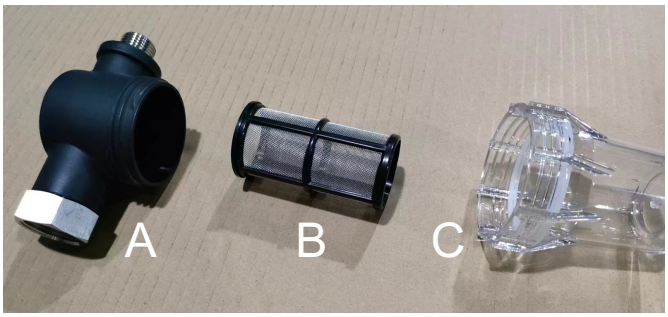
Cleaning the 2025 Strainer Cover

<u>The strainer should be cleaned each week</u>. If your chiller's flow has dropped, clean the strainer following the steps below. The paper filter should also be changed regularly to protect the equipment.

Remove the strainer from the side of the chiller.

Unscrew the transparent plastic cover from over top of the strainer.

The metal filter net is pressure fit into the cover. Pull it off the cover head.



The filter is now fully disassembled. Follow the steps below to clean

A) Clean any debris from inside the inlet and outlet of the cover.
B) Use a scrub brush to clean debris off the metal filter net.
C) Wipe out the strainer casing with a cloth.

After the inlet cover is cleaned, reverse the process to re-install it on the chiller.

Chiller Usage

Before Using

1. The chiller must be plugged into a **grounded** socket.

2. Test the GFCI break before your first use and at least once per week thereafter. If the GFCI breaker does not work, **do not use the chiller** and contact Redwood Outdoors for assistance.

Setting the Temperature

Follow the process below to use your chiller!

Plug your chiller in. The chiller is rated for US household voltage. Make sure you are connected to a grounded AC socket.

Turn on your chiller. An error code may display during startup. **This is normal**. The chiller must purge all air from its plumbing and pressurize before pumping water. It can take **5 to 10 minutes** to pressurize.

Tap the **S button** to enter the temperature setting mode (the set temperature will start blinking).

Use the up and down arrows to increase or decrease the set temperature. Holding the **UP** arrow for >20s will turn off the heating function, to re-enable, hold the **UP** arrow again for >20s.

Once the set temperature is at your desired level, tap the **S button** again (the set temperature will stop blinking).

Wait for your water to reach your desired temperature. Factors such as surrounding air temperature will significantly impact heating/cooling times.

Turn off the GFCI switch before getting into the water.

Chiller Usage

Tips to Cool Your Water Faster

Cooling times are **highly dependent on the environment** the chiller is in. The most important factor impacting cooling times is the **outside temperature**. If the chiller is in Arizona with an outside temperature >110° F, it will cool the water **much slower** than if the chiller is in Maine with an outside temperature of ~65° F.

This is because (1) the outside air heats up the water in your cold plunge, and (2) the chiller (like an aircon unit) is less efficient in high temperatures because it cannot effectively dissipate the hot air it generates.

Try some of the following steps to improve your cooling times:

1. **Place the chiller in a well-ventilated area.** The chiller should be exposed on all sides and should have **at least** 3ft of open space behind the fan. Make sure the air intakes are exposed so that fresh air can enter the chiller.

2. **Direct the fan away from the tub.** Position your chiller so that the hot air from the fan is blowing away from the plunge tub.

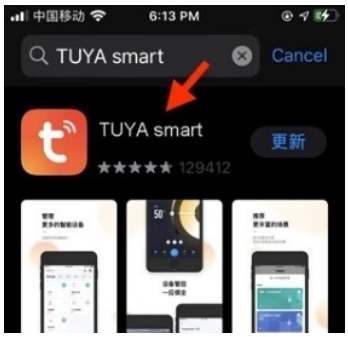
3. **Leave your chiller on at mid-temperature.** If you would like to take your plunge at 40° F (for example), leave your chiller on and running at ~60° F, then adjust the temperature before your plunge down to your desired temperature. Studies of air conditioning units have found this is the most efficient way to maintain your house's air temperature.

Chiller App

How to Setup Your Chiller App

Note that the chiller **does not work with 5G** Wi-Fi, your network must be 2.4G to function. Due to ongoing software updates, the app may appear different than shown below.

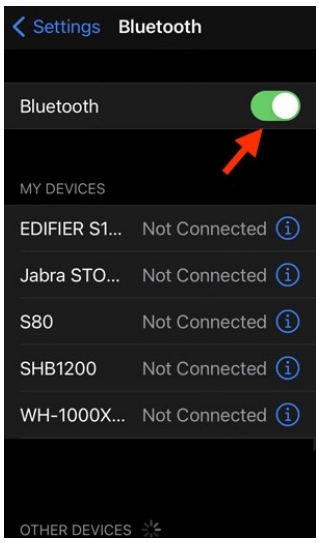
Download and install TUYA smart. If you have trouble finding this app in the app store, you can scan the QR code.



Make sure your phone is connected to Wi-Fi and its Bluetooth is turned on. Make sure your phone and chiller are in the same area, and that the area is covered by Wi-Fi before setting up the app. The chiller and smartphone must connect to the same Wi-Fi network.

Set up the Wi-Fi connection following the pictures below. After setting it up successfully, the chiller can be remotely controlled anytime and anywhere.

Step 1
Turn on your phone's Bluetooth



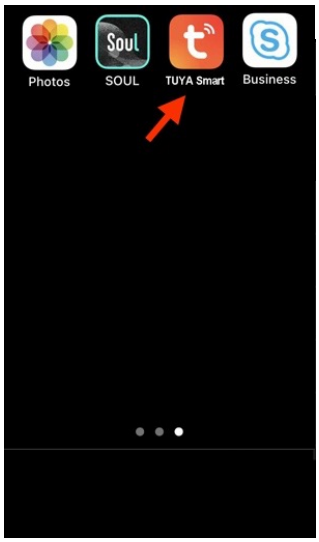
Step 2
Connect to the **2.4G** Wi-Fi network

Step 3
Press and hold the Wi-Fi button

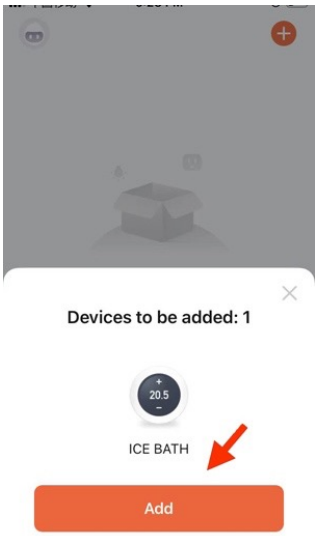
Step 4
Release once the Wi-Fi icon starts blinking

Chiller App

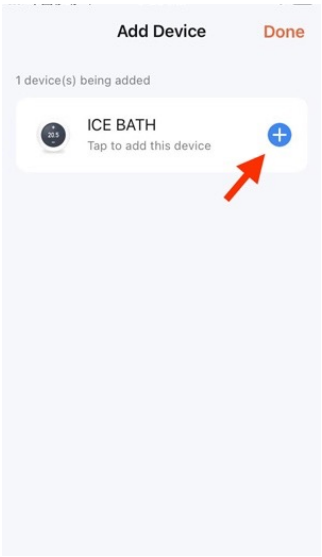
Step 5
Open the TUYA app



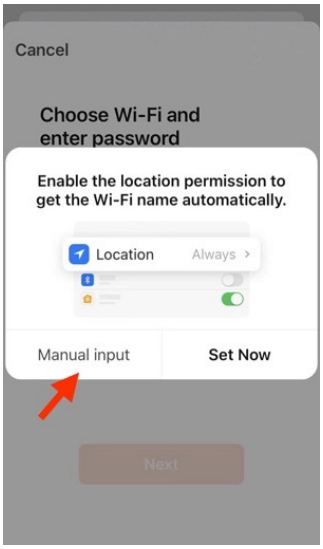
Step 6
Click “Add” when the pop-up appears



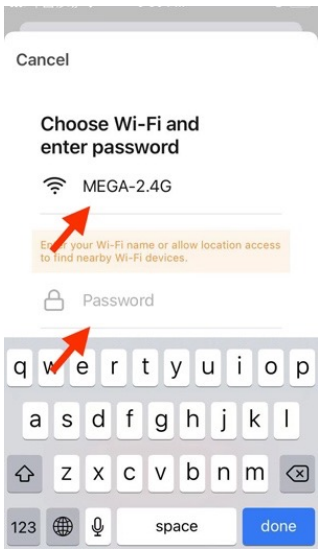
Step 7
Click “+”



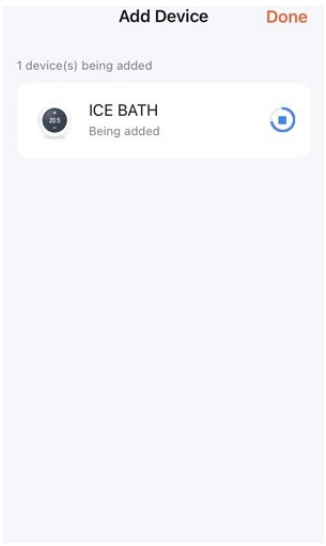
Step 8
Choose “Manual Input”



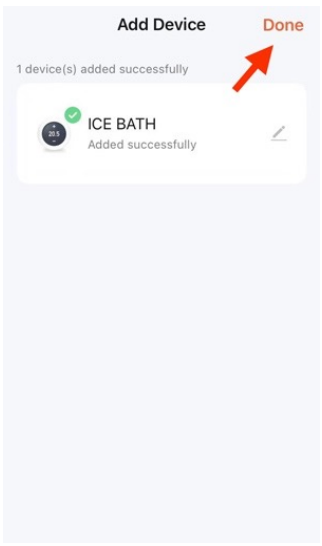
Step 9
Enter Wi-Fi network and password



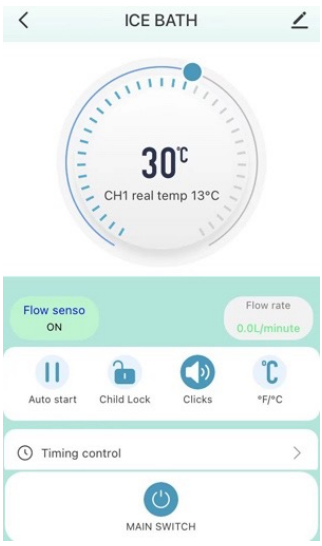
Step 10
Wait for device to pair



Step 11
Click “Done”



Step 12
You can now operate your chiller remotely



Chiller Maintenance

Regular Maintenance

Filter and Strainer Cleaning

A filter cartridge typically lasts 6 to 12 months, however, it **must be cleaned regularly** to achieve this lifespan. To keep your filtration system in top working condition, we recommend cleaning it **at least** once per month. The strainer at the inlet to the chiller should be cleaned at this time as well.

To clean the filter cartridge, remove it from the filter and place it in a bucket of water. Add a filter cleaning agent to the water and swish around to mix. Let the cartridge sit in the bucket for ~24 hours. After 24 hours, take the cartridge out, rinse, and leave it to dry. Once the filter is dried out, you can put it back in the filtration system for use.

We recommend customers buy filter cartridges in pairs. Then when it's time to clean your filter, you can use your second cartridge. By rotating between filter cartridges, you can avoid having to stop using your plunge tub while the filter is being cleaned and you can buy cartridges less frequently.

Redwood Outdoors sells replacement filter cartridges for when your cartridge has reached the end of its life and needs a change.

Water Sanitation

If you plan on changing your water infrequently, it should be treated with both a sanitizing agent (bromine) and an oxidizer (“Shock”). The sanitizer will kill bacteria, keeping your water clean. Shock oxidizes your water, giving the sanitizer a boost as well as helping remove organic contaminants from the water.

Regularly check the bromine levels (i.e., multiple times per week) to make sure your water is sanitary. Redwood Outdoors sells a Bromine Cleaning Kit with everything you need, including SpaGuard bromine tabs and SpaGuard enhanced shock.

Water Balancing

It is also very important to monitor your alkaline, pH, and calcium (hardness) levels to avoid damaging your chiller. Any damage to the chiller due to improper water maintenance is not covered under Redwood Outdoors’ product warranty.

Your plunge tub’s water must be checked regularly to make sure it is within the ranges below:

pH: 7.2 - 7.8
Calcium: 150 - 250 ppm
Alkaline: 80 - 120 ppm

You can read more about how an imbalance of these 3 factors can damage your chiller in our FAQ. In most cases, you will find that you need to increase your alkalinity, decrease your pH, and increase calcium. Our Water Balancing Kit provides the chemicals needed to make these adjustments as well as test strips so that you can check the levels in your water.

Chiller Maintenance

Regular Maintenance

Exterior Cleaning

Do not spray the chiller with water (e.g., with a garden hose) to clean it. Water can enter the electrical components and damage the chiller. Clean the surface using a clean, soft cloth. Make sure you dry off any residual water after cleaning to avoid rusting.

Storage

The chiller is not designed to be left outside for extended periods of time.

We have created a video explaining how to take apart your chiller for storage. You can see that video on our assembly page under the accordion labeled “Take-Down and Storage”.

www.redwoodoutdoors.com/assembly/chillers/

The chiller’s casing is made of metal and can rust if left in the rain. Make sure the chiller is stored in a dry area and wiped dry with a towel after use.

Drain all water from the chiller before storing it. Water left in the machine may damage the components, especially if the ambient temperature drops below freezing.

Defrost Mode

If you have a dual heater + chiller, defrost mode will turn on **automatically** when the chiller is turned on in below-freezing weather. This is a self-protection function that prevents the components inside the chiller from freezing.

When the chiller is in defrost mode, its **efficiency will drop significantly**.

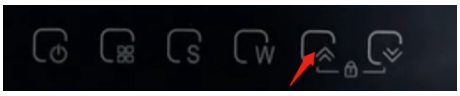
While in defrost mode, the chiller’s fan will blow over the condenser to remove any ice that has formed. It is normal for small ice pellets or very cold water to blow out of the back of the chiller while it is in defrost mode.

Solutions to Common Issues

We have created a video that addresses the most common issues. This video will guide you through each of the issues as well as common solutions. You can see that video on our assembly page under the accordion labeled “Troubleshooting”.

www.redwoodoutdoors.com/assembly/chillers/

Other common issues are listed below. If a problem persist, contact Redwood Outdoors’ support team for further assistance.

Issue	Next Steps
Chiller will not turn on	▪ Confirm that the socket the chiller is plugged into has power. ▪ Confirm the GFCI is engaged (flipped up). ▪ Check if the breaker at your socket or electrical cabinet has tripped. If it has tripped, connect the chiller to a socket with a higher amp rating.
Water leaking out of the chiller	▪ If the water is leaking out of the drain, this is most likely **condensation**. The chiller’s low-temperature results in water condensation, like how a glass of ice water “sweats” in summer. ▪ Check if the water level in the plunge tub is changing. If the water **stays at the same level**, this is **condensation**. Place a drip tray under the chiller or at the drain to catch any condensation. ▪ If the **water level is dropping**, a component inside the chiller may be leaking. Contact Redwood Outdoors for further assistance.
Chiller not pumping water or continuous FL code	▪ There is likely an air leak in the chiller’s setup. Refer to the steps in the troubleshooting video. ▪ If the video does not solve the issue, refer to the next steps in the “Low water flow” section below.
T1 “error code” showing on the display	▪ This is **not** an error code. it indicates that the chiller is receiving data from the T1 temperature sensor and can be ignored.
Display “stuck” or not responding	▪ Press and hold the DOWN button for 5 seconds to reset the chiller. ▪ Leave the system off for at least 3 minutes, then restart.
Heater not turning on	▪ If you do not see a flame icon on your display, the heater has been turned off. ▪ Press and hold the temperature UP button for 30s to turn the heater on.  
Low water flow out of the chiller	▪ Confirm that the hose is not kinked and that the tub’s outlets are not blocked. ▪ Take the filter out of the casing, reattach the empty filter casing, and run the chiller briefly without a filter. If this fixes the issue, you need to purchase a new filter. ▪ Connect the straight hose (single inlet and outlet) to the **red** chiller inlet. If you are using a Yukon tub, connect the other end of the hose to one of the **red** outlets on the tub. Run the chiller. If this fixes the issue, you need a new hose. Contact Redwood Outdoors for further assistance.

Error Codes

If your chiller encounters certain operational issues, an error code may appear on your display. The most common error codes are explained below.

If error codes persist, contact Redwood Outdoors' support team for further assistance.

Error Code	Issue	Next Steps
FL or FU	The chiller cannot pressurize. It is **normal** for this error to show after the chiller has been turned on or when the water hoses have been taken out of the cold tub. This code may show multiple times before the chiller pressurizes.	▪ **Wait for 10 minutes**. In most cases, the chiller will start functioning. ▪ If after 10 minutes the error persists, tighten all connection points, a loose connection can lead to an air leak into the system. The **filter case** is the most common source of air leaks. ▪ **Refer to the frequently asked questions video** for detailed guidance and additional solutions.
HH	The water temperature is above the operating range.	▪ **Add ice to your plunge tub** to bring down the water temperature.
ICE	The water temperature is below the operating range.	▪ **Drain all water from your chiller** to avoid damage occurring to the internal components. ▪ Fill your plunge tub with room-temperature water and run the chiller. ▪ Hold the temperature UP button to clear the error code.
AA	The T4 temperature sensor is malfunctioning.	▪ Contact Redwood Outdoors for support.
PA	The T3 temperature sensor is malfunctioning.	▪ Contact Redwood Outdoors for support.
CH2	The T2 temperature sensor is malfunctioning.	▪ Contact Redwood Outdoors for support.
CH1	The T1 temperature sensor is malfunctioning.	▪ Contact Redwood Outdoors for support.
IN	The motherboard wiring is loose.	▪ Contact Redwood Outdoors for support.
FE	The display cable is loose.	▪ Contact Redwood Outdoors for support.
FILTER	The chiller's filter is dirty.	▪ Turn off the chiller, then remove and clean the filter. ▪ If cleaning the filter does not address the issue, the filter must be replaced. Replacement filters are available from Redwood Outdoors.