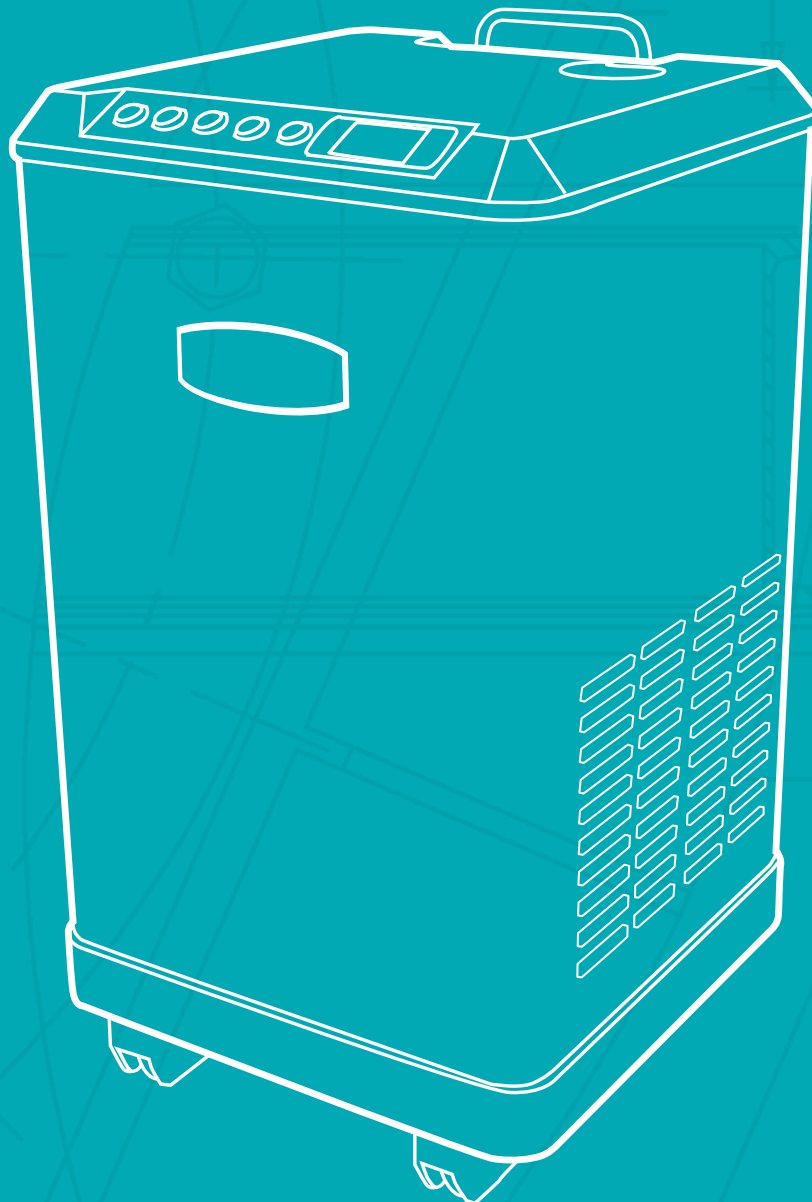




GLYCOL CHILLER INSTRUCTIONS



**IMPORTANT: BEFORE OPERATING PLEASE SEE
INSTRUCTIONS ON PAGE 5**



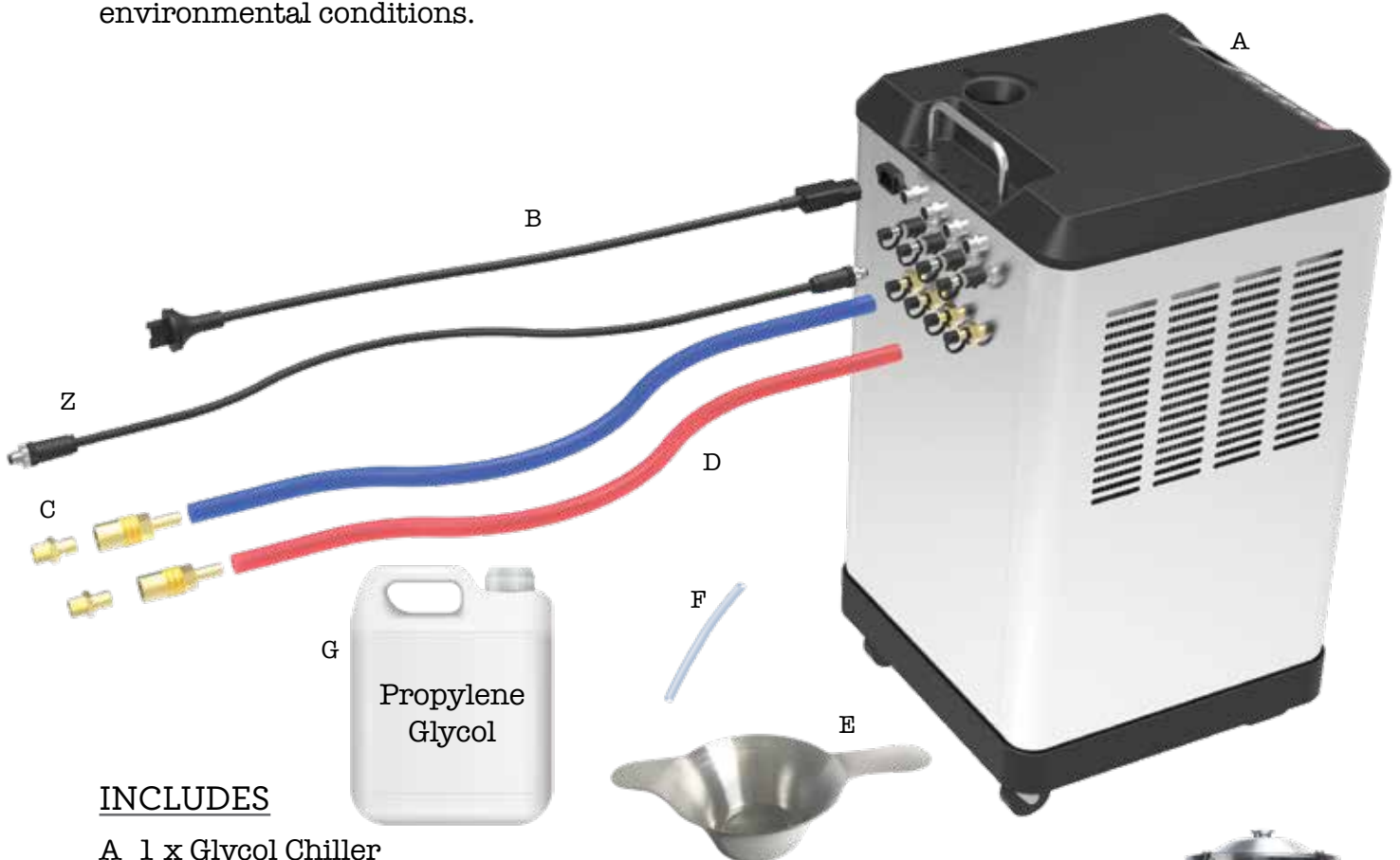
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KEY FEATURES

- LED displays.
- 6 L (1.6 US Gal) glycol tank.
- Cools a Grainfather Conical Fermenter to a minimum temperature of 4 - 6°C (39 - 43°F)*.
- Connect up to four fermenters and ferment each one at a different temperature.
- Glycol temperature controller.
- 3 pin power connections for fermenters.
- The R600a refrigerant used is an environmentally friendly replacement for other refrigerants causing no effects to the ozone layer or the greenhouse effect.

*Minimum temperature will vary based on external factors such as ambient room temperature, the number of fermenters connected and other environmental conditions.

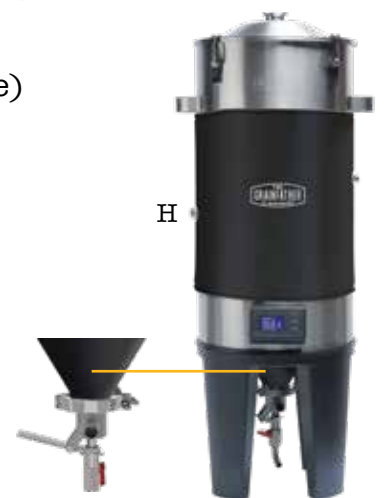


INCLUDES

- A 1 x Glycol Chiller
- B 1 x wall outlet power cord (with plug based on country of sale)
- C 2 x cooling connection couplers
- D 2 x 2 m (6.5 ft) hoses
- E 1 x glycol funnel
- F 1 x silicon tube (8 mm inner diameter for priming pump)
- G 1 x 3 L (101 US fl oz) propylene glycol.
- H 1 x Conical Coat (2 parts; body & cone jacket)

ALSO SHOWN (not included):

- Z 1 x M12 power cord (included with Conical Fermenter)



SAFETY INFORMATION

1. When transporting, keep level and lift from the base.
 2. Never tip the unit on its side or upside down. This will void the warranty as it will damage the electronics.
 3. Always operate on a flat surface in a well ventilated environment.
 4. Keep the sides of the unit where the vents are clear of any objects as it requires uninterrupted air flow to operate.
 5. Avoid getting any liquid on the controls area.
 6. Use food grade propylene glycol. Seek glycol manufacturers specifications for more information.
-

MAINTENANCE:

1. Turn off chiller before cleaning.
2. Regularly clean the ventilation louvers using a soft brush.
3. DO NOT clean the stainless steel or plastic casing with a wire brush or steel wool.
4. Use water or washing liquid that does not contain alkali or chlorine.
5. DO NOT spray water onto ventilation louvers.
6. Regularly check the glycol mixture level to make sure it is not too low. For optimal performance it is recommended to replace the glycol mixture every 6 months.

PRODUCT NAME: GLYCOL CHILLER

Rated: 300W - 3.0A max

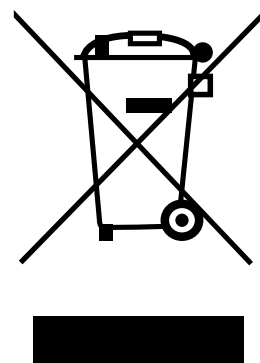
220-240V ~ 50Hz

110-120V ~ 60Hz

Dimensions (mm) - 390W x 405D x 656H

Total Weight - 28.3 Kg (63 lb)

Made in China





THE
GRAINFATHER
ALL GRAIN BREWING

CONTROL YOUR FERMENTATION TEMPERATURE ACCURATELY. EVERY TIME.

TEMPERATURE CONTROL IS ONE OF THE MOST CRUCIAL ELEMENTS FOR PRODUCING A GOOD QUALITY BEER. IT NEEDS TO BE REGULATED AND STABLE THROUGHOUT THE WHOLE FERMENTATION PROCESS TO ENSURE THE YEAST DOESN'T GET STRESSED AND FERMENTS CORRECTLY TO GET THE RIGHT FLAVOUR PROFILE.

WITH THE ABILITY TO INDIVIDUALLY CONTROL THE TEMPERATURE OF UP TO FOUR GRAINFATHER CONICAL FERMENTERS, EACH WITH THEIR OWN FERMENTING SCHEDULES, THE GRAINFATHER GLYCOL CHILLER IS THE PERFECT ADDITION TO YOUR BREWERY TO ENSURE SUPERIOR RESULTS.

HOW IT WORKS

This product cools a Grainfather Conical Fermenter to a minimum optimal temperature of 4 - 6°C (39 - 43°F)*. The cold glycol can be used to keep the beer in a fermenter at a desired temperature.

The glycol chiller includes a pump with 4 connections to make it possible to connect and control the temperature of up to four 30 L (8 US Gal) Grainfather Conical Fermenters in total.

PRIMING PUMP BEFORE FIRST TIME USE

IMPORTANT

Make sure the chiller has been standing upright for 24 hours before turning it ON. Before using the Glycol Chiller, you must prime the pump by carefully following the instructions below.

IMPORTANT

Make sure to leave the power to the unit off while completing steps 1 to 4. It is vital that the chiller's compressor does not start until there is water/glycol in the glycol tank.

1. Place the Glycol Chiller close to your Grainfather Conical Fermenter so that all connections can be made without the need to move the unit again.
2. Open the cap on the top of the Glycol Chiller. Using the included Grainfather Glycol Funnel with mesh filter, pour 4 L (1.06 US Gal) of water into the tank. Close the cap and let the chiller rest for a minimum of 5 minutes (the longer the better).
3. Connect a Grainfather Conical Fermenter, via an M12 power cord, to your chiller's 4th port (at the back of the chiller under number 4). Your fermenter will also need to be fitted with a Conical Fermenter Digital Controller.



4. Connect the included silicon hose to the glycol mixture outlet connection (silver in colour with blue cap) under number 4. Open the cap and insert the free end of the hose into the opening of the glycol tank (shown in the image).
5. Turn your chiller on by pressing the power button. The power cord will need to be plugged into the back of the chiller to provide power.

6. Your Grainfather Conical Fermenter Digital Controller should have just turned on (it is powered by the chiller). Set the fermenting temperature on this digital controller to 4°C (39.2°F). This causes the fermenter to send a cooling signal to the Glycol Chiller, and ensures that when the pump is started, the 4th port will be opened.
7. Ready 2 L (0.53 US Gal) of propylene glycol in a jug.
8. Press the number 4 button to start the pump. This should cause the number 4 button to light up blue; if not, check that you have followed steps 3 to 6 correctly. After 2 minutes, press the number 4 button again to stop the pump. Immediately pour the pre-prepared 2 L of propylene glycol into the tank (using the funnel with mesh filter). 1 minute after the pump was stopped, press the number 4 button again to start it. You should start to see bubbles and liquid in the hose flowing from the outlet connection to the opening of the glycol tank.
9. Repeat the cycle of having the pump on for 2 minutes, then off for 1 minute until only liquid (no visible bubbles) is flowing in the hose. Then, press the number 4 button to stop the pump and close the port.
10. Turn your chiller off, disconnect the silicon hose and close the cap. Wait a minimum of 30 minutes prior to turning the unit back on. This ensures that any potential build-up of ice within the glycol tank will melt.

Your pump is now primed, and your Glycol Chiller is ready for use.

NOTE: To avoid ice build-up within the glycol tank, try to keep the time between turning the chiller on (step 5), and adding propylene glycol (step 8), to no more than 5 minutes.

TOPPING UP THE GLYCOL TANK

NOTE: If this is the first time adding glycol into your Glycol Chiller, please refer to the Priming Pump Before First Time Use sub-section instead (page 5).

Once your Glycol Chiller starts pumping glycol to your fermenter (when the corresponding number button lights up), the glycol level will drop. We recommend topping up the tank until it is FULL to maintain optimum cooling performance. The FULL level is slightly over 6 L (1.5 US Gal) and is indicated by when the liquid level is high enough so that the glycol just submerges the cross bar (the flat metal piece that the float indicator slides through).

NOTE: Please follow topping up instructions exactly as instructed below.

The glycol mixture used to top up should always consist of the following proportions:

- 33% propylene glycol
 - 67% water
- i.e. 1 part glycol, 2 parts water

1. Turn the Glycol Chiller off.
2. Make up the necessary amount of glycol mixture in a clean jug as per the above proportions.* Always combine the glycol and water in a jug prior to adding into the tank.
3. Open the cap on the top of the Glycol Chiller. Using the included Grainfather Glycol Funnel with mesh filter, slowly pour the glycol mixture into the tank. Pouring too quickly may cause air bubbles to be trapped.
4. Replace and tighten the cap.
5. Wait a minimum of 5 minutes prior to turning the unit back on. This lets any air bubbles that may have been trapped in the mixture to escape. Trapped air bubbles can prevent the pump from operating correctly.

* We recommend making up in a jug more than enough mixture, then storing the remaining unused glycol mixture in a bottle to top up next time. As a guide, the approximate volumes required to top up the tank until it is FULL are as follows:

- 1.2 L (40 US fl oz) of mixture (consisting of 400 ml (13.5 US fl oz) glycol & 800 ml (27 US fl oz) water) if you have just primed your pump and then connected one fermenter.
- 600 ml (20 US fl oz) of mixture (consisting of 200 ml (6.7 US fl oz) glycol & 400 ml (13.5 US fl oz) water) if your tank was FULL and then connected an additional fermenter.

IMPORTANT

If contaminants enter the glycol tank, they can cause blockages. To prevent contaminants from entering the glycol tank ALWAYS follow these steps:

- Use a clean vessel free from any foreign matter when making up the mixture.
- Use the included Grainfather Glycol Funnel to transfer mixture into the Glycol Chiller.
- Replace the cap immediately after adding the mixture into the tank.

It is important to look at the glycol level (see Topping Up Glycol on page 6) around once per week and especially when connecting to additional fermenters. Every time a fermenter, which does not already have glycol in its cooling sleeve, is connected to the Glycol Chiller, the glycol level will decrease. Other factors such as water evaporation can also affect this level.

NOTE: For optimal performance choose to replace the glycol mixture every 6 months. First you need to pump out of the glycol tank all the existing glycol, then refill it with new glycol mixture (see page 5).

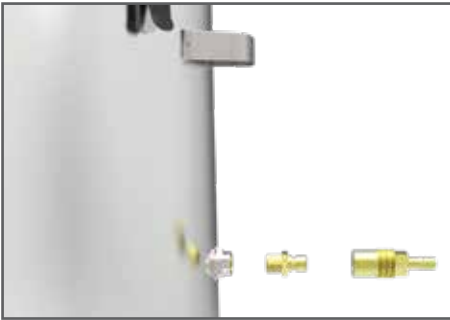


PREPARING COOLING CONNECTIONS

A cooling connection kit is included with your Glycol Chiller (see page 1). This consists of brass couplers and hoses. Firstly, connect the couplers to the fermenter:

1. Take the threaded section of the coupler and connect it to one side of the Grainfather Conical Fermenter. Make sure it is screwed in firmly. Use a spanner if necessary, but do not over tighten.
2. Connect the other end of the coupler to the section you just used by pushing the spring-loaded sleeve back and sliding it over.
3. Repeat these steps on the other side of the fermenter.

It is possible to cut the hoses shorter if necessary; this will also increase maximum cooling efficiency. Place the chiller and fermenter in their final place, measure and cut the hoses accordingly.



CONNECTING THE CHILLER TO A FERMENTER

On the back panel of the Glycol Chiller are the connections for the hoses. You can connect up to four fermenters to the chiller. The outlet connections from the chiller are silver in colour and the return connections are gold.

The buttons on the front of the chiller labelled 1,2,3,4, match up to the connections on the back labelled accordingly.



1. Make sure the unit is turned off.
2. On the back panel of the chiller locate the glycol mixture outlet connections; these are silver in colour with blue caps. Connect the blue hose to the first silver connector labelled with number 1. This hose then connects to the coupler on the fermenter that is attached in the lowest position.

3. The glycol inlet connection is where the glycol is returned to the chiller to cool back down; these are gold in colour with red caps. Connect the red hose to the glycol return inlet connection labelled with number 1. This hose then connects to the coupler on the fermenter that is attached in the highest position.

NOTE: Make sure that your glycol outlet connection (blue hose) is connected to the coupler in the lowest position, and the glycol inlet connection (red hose) is connected to the coupler in the highest position. The glycol needs to be pumped into the cooling sleeve from the bottom to maximise cooling efficiency.



OPERATING AND USING THE CHILLER

1. Plug the power cord into the back of the Glycol Chiller and the other end into a wall socket.
2. Connect the M12 power cord from your Grainfather Conical Fermenter to the connection under number 1.
3. Turn the power to the chiller on by pressing the power button on the front panel, the button will light up red.
4. The fermenter will now get its power from the Glycol Chiller and also turn on.

NOTE: Using the chiller with your Conical Fermenter eliminates the need for a separate fermenter power supply; the chiller provides power to all fermenters through their respective M12 power cords.



CONNECTING MORE THAN ONE FERMENTER

The glycol chiller can allow up to four 30 L (8 US Gal) Grainfather Conical Fermenters to be connected at one time. When connecting more than one fermenter, repeat the connection steps (see page 8) for each additional fermenter that needs to be connected by matching the remaining connections labelled from 2-4. Then complete the following:

1. Top up the glycol tank as per the Topping Up the Glycol Tank sub-section until it is FULL. For each additional fermenter (which does not already have glycol in its cooling sleeve) connected, you will need approximately 600 ml (20 US fl oz) of additional glycol mixture.
2. Check that each fermenter is plugged into the correct connections. Take care to make sure that each fermenter is plugged into the correct numbers on the Glycol Chiller. It is a good idea to label the fermenter and hoses to the matching number on the chiller to avoid any confusion.

NOTE: To prevent the pump from running dry, if the glycol level is too low, the pump will automatically switch off, the chiller will make a “beeping” noise and the power button on the chiller will flash. When this happens, refill the glycol tank until it is FULL (see page 6); this will restart the pump.



TEMPERATURE CONTROL

NOTE: Please read this thoroughly first before use.

We have configured the unit to the optimal settings, as to provide the best cooling efficiency from the chiller to a fermenter for ANY required fermentation temperature. We highly recommend to not change these settings, as this could result in poor cooling performance and in extreme cases the glycol mixture may even freeze, which has the potential to cause damage to the chiller unit.

If your controller is required to be reset please see below the factory settings and method to complete this.

OFF TEMPERATURE = -4.5°C (-23.9°F)

ON TEMPERATURE = -4.0°C (-24.8°F)

1. Press and hold the 'OK' button to unlock the controller.
2. Press the 'Off temp' button.
3. Use the 'Up/Down' buttons to set the temperature, then press 'OK'.
4. Repeat with the 'On temp' button.



SETTING FERMENTER TEMPERATURE

1. Set the desired fermenting temperature on the Grainfather Conical Fermenter's controller.
2. Press the number button on the glycol chiller that corresponds to the connections that will be in use.



3. The fermenter will now signal to the glycol chiller if it needs any additional glycol.

NOTE: Once the number button is pressed, the button will light up blue ONLY if it is receiving a cooling signal from the connected fermenter. The chiller will only pump glycol if it is receiving a cooling signal.

TROUBLESHOOTING

PROBLEM	CAUSE	TROUBLESHOOTING
Unable to start normally	Wall outlet error	Detach from wall power socket and plug-in again
	Failed to press power switch	Press power button and it should light up red
	Power switch failure	Contact your retailer
Failed to cool or cooling speed is low	The Chiller's on and/or off temperatures have been set higher than the factory settings	Reset the temperature (see page 11)
	The ventilation inlet/outlet were blocked	Clean and clear blockage
Unable to supply glycol mixture to the fermenter	Connecting lines were clogged or bent	Check pipelines
	Corresponding glycol outlet port not open	Identify and press the number button which corresponds to the connections in use
	Connected the hoses to the wrong inlets/outlets	Recheck hose connections
	Low liquid level of glycol mixture in the tank	Add more glycol mixture (refer to page 6)
	M12 power cord is not connected to fermenter correctly	Check whether the power cable connection is tightly screwed in
Temperature controller warning Code: E1	Thermometer probe failure	Please contact your retailer
Temperature controller warning Code: E2	Interference with memory data of the temperature controller	Turn off the power supply for five minutes and then restart



Reorder: 10233
Version: 5



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